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Certification and Labeling Activities in 60 Commodity Fields

by

P. G. Agnew[1] *and* J. W. McNair[2]

A factual survey of the methods and results of certification and labeling in the marketing of commodities as practiced by trade and technical associations and governmental bodies

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The information presented in the following pages is derived from a study by P. G. Agnew, secretary of the American Standards Association, and J. W. McNair, electrical engineer on the ASA staff, of data on certification and labeling obtained through direct contact and correspondence with organizations promoting certification and labeling programs. This study, undertaken at the request of the Committee on Certification and Labeling of the ASA Board of Directors, gave to the Committee a factual basis for its consideration of the subject.

A report of the Committee outlining in preliminary form a policy for ASA with respect to certification and labeling is printed on page 24.

The members of the Committee are: Howard Coonley, chairman; G. K. Burgess; C. L. Collens; and F. E. Moskovics.

I

Introduction

The data in this memorandum and the accompanying tables have been summarized from a very considerable body of experience that has been accumulated by trade and technical associations and governmental agencies in the use of two general methods of using specifications in the marketing of products. These two general methods are usually referred to as "certification"[3] and "labeling." They are designed to assure consumers that products are in accordance with the specifications in question.

The data have been compiled by direct contact and correspondence with considerably more than 100 trade and professional associations, and government departments. As far as possible an effort has been made to include the main features of as many undertakings as have been tried out on a national scale, and in which a substantial amount of experience has been accumulated. The data have been classified

[1] Secretary, American Standards Association.
[2] Electrical Engineer, American Standards Association.

[3] The word "certification" has been loosely used to cover a number of widely differing methods by which a manufacturer, or an association, or an independent laboratory may "certify" to the purchaser that the products comply with the specifications. For example, the "certification plan" proposed by the Bureau of Standards for the use of industry is a very different method from that used by the Bureau of Agricultural Economics, and that used by the National Lumber Manufacturers' Association.

with the object of setting forth the methods followed, and also, where the information could be obtained, a general estimate, by the organization responsible for the work, of the results accomplished under these methods. An effort has also been made to secure a rough estimate of the value of the products sold annually under these methods. In most cases, however, it has not been possible to secure such estimates.

The data on about 60 organizations is summarized in condensed form in Table 2. A few of the more important undertakings are outlined somewhat more fully in the following paragraphs.

1. Any program of certification, labeling, or grade marking, in order to be adequate, should be based upon specifications which are publicly available and nationally recognized.

2. It is for the group or groups substantially concerned with the specifications to decide whether there is to be certification or labeling; and the ASA itself cannot directly take any primary responsibility in respect to such activities.

3. Any certification or labeling program should be effectively supervised by a properly qualified body; *e.g.*, a trade association, or a testing laboratory, operating under proper administrative management.

4. It is suggested to the Member-Bodies that they make a study to determine to what extent certification and labeling would be advantageous or disadvantageous to their work.

5. It is suggested that the Board of Directors discuss whether the ASA or the staff should promote such activities among Member-Bodies—*from a report of the Committee on Certification and Labeling* (*page 24*)

2

The Lumber Industry

In the lumber industry there are two distinct activities—first, certification and grading in carload lots; second, grade marking of individual boards. The work is carried out chiefly by the National Lumber Manufacturers' Association, with some 20 affiliated and cooperating regional associations, and also with the cooperation of the U. S. Forest Service and the Bureau of Standards; and by the National Hardwood Lumber Association which operates independently. Detailed information in regard to the practices of the individual associations is tabulated in the accompanying list (Table 2).

Through the efforts of the National Lumber Manufacturers' Association, a considerable degree of uniformity in the practices of the various regional and cooperating associations has been brought about. The Association licenses the regional associations and their company members to use the "Tree Mark," an emblem representing a tree in such form that it may be stamped on each individual piece of lumber, and has for years carried out an extensive campaign to induce the entire industry to use, throughout the marketing process, certificates of inspection and grading and the actual grade marking of each piece of lumber.

The chief unit of inspection and grading is the carload lot. Under this system, which is termed "Manufacturers' Certificate of Car Contents" for soft wood and "Licensed Shipment" in the case of hard woods, the individual manufacturer issues his own certificate of inspection. This certificate, which is placed in a sealed envelope in each car, contains explicit statements in regard to the size and quantity, grading, and also an identification mark by which responsibility can be placed upon the manufacturer in case of reinspection by inspectors of the regional association, or in case of further appeal to the National Lumber Manufacturers' Association. The guarantees under the inspection certificates carry through the market to the first unloading purchaser.

The grading process of each manufacturer is checked up systematically by the regional association through its own inspectors. This must be done at least once a month. All of the regional associations must furnish certificates of inspection on the request of the purchaser.

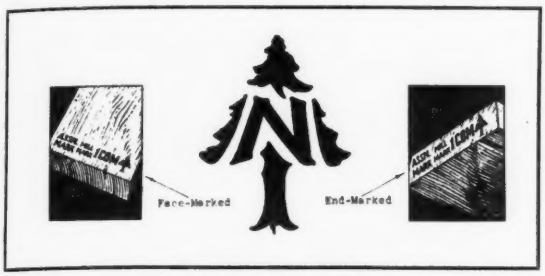
The cost of inspection is from two cents to five cents per thousand board feet.

The National Lumber Manufacturers' Association guarantees to make from its own treasury a *satisfactory settlement* to the first unloading purchaser of lumber bearing its "Tree Mark," if it is found to be wrongly grade-marked.

The chief opposition to this movement and the chief difficulties in the administration of the plans have been in connection with wholesalers. Some wholesalers and some retailers buy graded but unmarked lumber, mixing and regrading upward for the retail market. A few retailers are carrying the grading through to the retail purchaser, and the National Lumber Manufacturers' Association is actively pushing this movement. It has distributed to

ultimate consumers hundreds of thousands of educational pamphlets explaining the plan of grading and marking.

Hard woods are handled in much the same



The "tree mark" of the National Lumber Manufacturers' Association and illustrations of its use in conjunction with approval marks of other lumber associations and manufacturers' grade marks

way as soft woods so far as inspection and certification of the graded product are concerned. Only a very small part of it is, however, grade-marked. This is explained as being due to the fact that most hard wood is purchased for consumption in carload lots.

A committee of the National Association of Purchasing Agents has been an important factor in the rapid growth of the use of the grade marking and certification plans.

Over 35 per cent of the total soft wood cut is now grade-marked and over 50 per cent is graded and certified.

Over four billion board feet of hard woods are graded and certified annually.

Representatives of the National Lumber Manufacturers' Association state that it is generally accepted that the movement has greatly raised the tone of the entire lumber industry. The Southern Pine Association states that "practically all of our advertising in trade promotion effort has revolved about grade marking."

3

The Bureau of Agricultural Economics

The Bureau of Agricultural Economics maintains extensive activities in setting up standard grades, inspection, certification, etc., for agricultural products.

Much of the early work of the Bureau was made legally mandatory by Congress for products involved in interstate shipment. This includes the work on cotton, grains, and tobacco, and on containers.

The greater number of standards are permissive standards, for fresh fruits and vegetables, meats, poultry, and dairy products.

The great bulk of the staple grain crops (corn, wheat, barley, oats, sorghum, rye) of this country is graded under the supervision of the Bureau. In 1929, 1,916,000 carloads of grain were thus inspected and formal certificates issued. The Bureau estimates that in all over 80 per cent of these grain crops were sold under these grading certificates, representing on the basis of 1929 value over three billion dollars.

The process is carried out in much the same way with fresh fruits and vegetables, with 300,000 carloads sold under certificate of inspection in the year 1930. Much the same process is carried out in the inspection and issuance of grading certificates for cotton, hay, tobacco, meats, poultry, eggs, butter, cheese, dry beans, and other products. All of the hay brought into the Chicago market is sold under grading certificates issued under the authority of the Bureau. Part of the inspection work is done by the Bureau's own inspectors, but much of it is done by inspectors who are not in the employ of the Bureau but licensed by it. Provision is made for appeals, in disputed cases, for reinspection under close supervisory control, and for regular check and supervision of all inspection whether made by employed or by licensed inspectors.

By far the greater part of the Bureau's grading and inspection certificates are issued for use in the wholesale market. Recently, however, extensive experimenting has been done in grade marking in such a way as to carry through to the retail purchaser. In a number of important commodities the Bureau considers this development into the retail markets as having satisfactorily passed well beyond the experimental stage. The chief among the latter are butter, eggs, beef, and to a considerable extent, poultry. In the case of butter, for example, the individual carton bears a printed slip stating that upon a given date the butter had been inspected and had scored 93 or better. In the grade marking of beef the words "U. S. Choice Steer," for example, will be stamped in a sufficient number of places on the beef so that the housewife may check the grade marking as the beef is cut in the retail market.

4

The Citrus and Apple Producers

Western associations of producers of citrus fruits and apples have had long experience with grade marking, and furnish some of the most widely known examples of such methods. The four principal associations involved are the Skookum Packers Association, the Hood River Apple Growers Association, the Yakima Fruit Growers Association, and the California Fruit Growers Exchange. Each of these is made up of local associations which operate packing houses.

The Skookum Packers Association may serve as an example of the work on apples. The grading is carried out under the state grading regulations and the work is actually done by the Federal State Inspection Service under contract. The grading is done in the packing houses of the local associations. (In the other associations the grading is done by the local associations but under supervision of the state authorities.) A label on each box bears the grade marking. An important feature is that a trade-marked brand name is applied to each of the three grades specified in the state grading rules: "Skookum Extra Fancy" label on the "Extra Fancy" grade; "Skookum Fancy" label on "Fancy" grade; and the "Satisfactoree" label on the "C" grade.

Their entire output is sold through a single exclusive sales corporation, the Northwestern Fruit Exchange. The cost of marketing is ten cents per packed box of apples. The cost of handling, advertising, inspection, and field work, and of the Association's office is three cents per box. This year they are marketing 6300 cars of 756 boxes each with an f.o.b. value of about $5,250,000.

The citrus fruits are handled in much the same way except that the local associations do the grading and labeling under the supervision and control of the central exchange. (Each packing house is regularly subjected to checks and inspection from one to three times daily.) As in the case of the apples, trade-marked brand names "Sunkist" and "Red Ball" are used for "Extra Choice" grade and "Choice" grade, respectively. In addition, and as in the case of apples, each local association or shipper may also feature his own individual brand, but all of these carry the trade-mark name "Sunkist" or "Red Ball."

The programs of these western fruit growers are frequently cited as successful examples of complete and thoroughgoing standardization, including concentration on a sharply limited number of varieties graded according to size, color, and quality; uniform packing in standard containers, and labeling with grade markings, the whole being made a fundamental part of the entire marketing process. The value of the apples marketing by the three associations under the plan is in excess of $10,000,000 annually. That of the citrus fruits similarly handled is $130,000,000. This very complete standardization program is generally regarded as being an essential factor in enabling the western growers to compete successfully in the eastern markets. Some eastern sections are now following in the footsteps of their western competitors.

The Yakima Association states, "We feel that our system is successful as far as the Yakima Valley is concerned, because we have been able to build our organization consistently, increasing its tonnage 10 per cent to 20 per cent per year."

5

The U. S. Food and Drug Administration and the American Medical Association

The U. S. Food and Drug Administration is charged with the administration of the following Federal Acts:

Food and Drugs Act
Tea Act
Import Milk Act
Insecticide Act
Caustic Poison Act
Naval Stores Act

These acts apply to foods, drugs, and certain other materials subject to interstate commerce. These acts and the administrative regulations based on them have largely to do with what are essentially specifications.

The most important of the acts, the Food and Drugs Act, "For preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors," will illustrate the methods used in the administration of the acts. Fundamental in this work are the U. S. Pharmacopoeia and the National Formulary which are essentially technical specifications (revised at ten-year periods) for a large number of the more important drugs and medicines. Any drug which is sold by a name or a synonym recognized in the Pharmacopoeia or in the Formulary must conform to these specifications; or it must be labeled with a statement to the effect that it is not a Pharmacopoeia or Formulary article. In addition, it must be labeled with a statement of the extent of its deviations, or a precise statement of its purity, etc.

Approval seal of the American Medical Association

Similarly, the provisions for the labeling of food products are based on simple, even rudimentary, specifications designed to assure wholesomeness of the food and to prevent misrepresentation and fraud.

The Mapes amendment to the act, which was sponsored by the American Canners Association, and became effective July 8, 1930, covers principally canned fruits and vegetables. Unlike most of the laws and regulations adminis-

tered by the Food and Drug Administration, which generally provided merely for approval or disapproval, this amendment sets up two grades of canned products, U. S. Standard and a lower grade. The lower grade must be labeled "Below U. S. Standard, Low Quality, But Not Illegal."

The Tea Act and Import Milk Act have also to do with the wholesomeness of human food.

The Insecticide Act and the Naval Stores Act are primarily economic in their objectives in that they deal with specifications to assure the quality or effectiveness of insecticides and fungicides, and of turpentine and rosin.

The American Medical Association has for 26 years maintained a "Council of Pharmacy and Chemistry," whose function is "to protect the medical profession and the public against fraud, undesirable secrecy, and objectionable advertising in connection with proprietary medicinal articles." The book, *New and Non-Official Remedies*, contains a description of "proprietary articles which have been accepted as conforming to the rules of the Council; of such simple non-proprietary and non-official substances as seem of sufficient importance to warrant their inclusion; and of simple pharmaceutical preparations, the inclusion of which is believed to give useful information to physicians."

To be accepted, a medicine has to be consistent with the U. S. Pharmacopoeia and the National Formulary; the label and advertising must be deemed free from false or misleading statements and from unwarranted claims; the composition must be disclosed; and other conditions must be fulfilled to satisfy the Council that the article is useful to the profession and to the public. Advertisements of accepted products only are admitted in the publications of the Association.

Reasons for refusal to accept a product are always published. This is the Association's most powerful means of "policing."

Representatives of the Association state that the better firms have come to seek the acceptance of their new products before placing them on the market—also, that irresponsible firms avoid contact with the Association.

Recently the Association has set up a precisely similar committee on foods which has been in operation somewhat over a year. The same methods are followed very closely. Already 500 food products have been submitted. Of these, the Committee has granted the use of the seal of the Association to 75 products. The manufacturers are allowed to advertise them as "Passed by the Committee on Foods of the American Medical Association." Four hundred and twenty-five have been rejected tentatively on the ground that the foods were adulterated or not wholesome, or were advertised in a misleading manner.

As in the case of drugs, no fee is accepted from the manufacturers for the testing and no information is accepted from them on a confidential basis.

The American Dental Association has recently set up a similar system for dealing with products used by dentists. The methods followed are very similar and, in fact, are modeled after those used by the American Medical Association for drugs and foods. They are thus developing a list of products which are deemed acceptable for use by the dental profession and by the public which the profession serves.

6

The Underwriters' Laboratories

Underwriters' Laboratories was established in 1901 and is maintained by the National Board of Fire Underwriters. It is operated on a non-profit basis for the purpose of giving information on the merits of materials and devices in respect to life, fire, and collision hazards, and theft and accident prevention. This information is obtained from laboratory tests performed in one of the Laboratories' testing stations. In many cases the tests are based upon standards which are available to all interested. The standards are prepared by "Industry Conferences" composed of members of the Laboratories' staff and representatives of manufacturers, and are reviewed and promulgated by one of the "Industry Councils," such as the "Fire Council," the "Electrical Council," etc. Representatives of insurance interests and regulatory bodies chiefly make up the councils.

The major part of the work of Underwriters' Laboratories consists in testing and inspecting various devices and materials to ascertain whether or not they meet the minimum standards of the Laboratories. The Laboratories publish annually lists of approved devices and materials, with semi-annual supplements. The following lists are published:

List of Inspected Electrical Appliances

List of Inspected Fire Protection Appliances

List of Inspected Gas, Oil, and Miscellaneous Appliances

List of Inspected Automotive Appliances

List of Appliances Inspected for Accident Hazard

List of Inspected Burglary Protection Appliances

In order for a manufacturer to obtain listing of his product it is necessary that the product

be submitted to the Laboratories for testing. If the Laboratories render a favorable report, the report is acted upon by the Industry Council concerned, and if their reaction is favorable, listing is granted. In case the Laboratories' report is unfavorable, the submitter alone is notified and suggestions may be made by the Laboratories as to improvements which will aid in securing listing. The cost of the test is borne by the manufacturer submitting his product. It is stated that in no instance does the cost amount to more than one per cent of the value of the product. In addition to the published annual lists and supplements, card reports of listings are issued and files of these cards are maintained at the offices of the principal boards of underwriters and inspection bureaus, at the offices of many insurance companies and agents, with federal, state, and municipal departments, and at the offices of the Laboratories in various cities.

In order to insure that the products listed by the Laboratories retain the features in the samples originally tested, the Laboratories maintain three forms of follow-up service:

1. Re-examination service. In this form of service, the Laboratories secure samples from the manufacturer or purchase them on the open market and make examinations and tests one or more times annually. Sub-standard features, if any, are called to the attention of the maker.

2. Inspection service. This service includes regular and frequent examinations and tests of products at factories by Laboratories' engineers. In certain cases, supplementary examinations of materials are made, these materials being purchased on the open market or received at the Laboratories from inspectors for test.

3. Label service. In this form of service, inspections of devices and materials are carried on at the factories by Laboratories' engineers, and the approved products are labeled with stamps, transfers, or labels bearing the words "Underwriters' Laboratories Inspected." These labels vary in form as required by the material in question. In many cases supplementary tests, at the Laboratories, of samples of labeled goods purchased in the open market or received from inspectors or users serve as a counter check on the factory inspection work. In a number of industries the label service includes inspection of products at factories, check tests on material purchased in the open market, re-tests of samples which have had practical use, and schedule estimates following comparative demerits noted on products. The costs of the follow-up services are borne by the manufacturer.

In a majority of the cases covered by the listing service mentioned above, the material is listed simply as complying with the Laboratories' minimum standards, and it is stated in the printed lists that "products of manufacturers labeled or listed as mentioned herein are not necessarily equivalent in quality or merit, the labeling and listing indicating only compliance with Underwriters' Laboratories' standard."

The Laboratories, however, also list material according to service rating. This is exemplified by the plan which is applied to building material in respect to its fire retardant qualities. In this case six classes are set up which classify building materials and assemblies in accordance with their resistance to a standard fire test specification. The classes are as follows:

Class A-8—8 hour retardant or over
Class B-5—Between 5 and 8 hour retardant
Class C-3—Between 3 and 5 hour retardant
Class D-2—Between 2 and 3 hour retardant
Class E-1—Between 1 and 2 hour retardant
Class F—Less than 1 hour retardant

This plan has been applied for five or six years to hollow concrete building blocks and recently has been made applicable to hollow clay building tile. A similar scheme has been in effective operation for various burglary alarm systems for a longer period. The above-mentioned plan is, of course, subject to the regular Underwriters' approval and listing method and the Laboratories are in a position to issue certificates on given lots of the material guaranteeing its compliance with the classification as fire retardants.

In addition to the above, the Laboratories have a new program to record an endorsement of automatic electric flat-irons based upon the presumed bearing of the automatic features on fire loss. A statement to this effect will be carried on the tag attached to the iron. The Laboratories also expect to announce in the near future a plan for banding flexible cord, including heater cord, with zinc bands which will classify the various types of cord according to the type of application for which it is approved.

7

The Bureau of Standards

In January, 1926, the Bureau of Standards initiated its "certification plan," which it recommends to industry for promoting the use of specifications. Under this plan the Bureau compiles and distributes lists of manufacturers desirous of obtaining contracts based upon

Commodity groups	Total number of		
	Specifications	Listings	Firms
Abrasives and polishing materials	9	113	54
Brick	2	596	596
Brushes and brooms	48	945	179
Builders' hardware	1	33	33
Cement, portland	1	69	69
Cotton gauze and bandages	5	34	11
Dental and surgical supplies	1	16	16
Electrical supplies	14	212	152
Fire extinguishers and liquids	3	78	51
Floor coverings	5	32	19
Glass	1	52	52
Goggles and helmets	7	58	14
Heat-insulating materials	8	58	30
Inks	6	114	43
Insecticides	3	28	18
Leather goods	4	103	81
Lime and plaster	4	145	87
Liquid-measuring devices	1	21	21
Lumber	2	3142	1850
Masonry cement and concrete materials	5	76	71
Non-ferrous metals	32	1221	327
Office supplies	8	72	57
Packing and gaskets	13	162	66
Padlocks	1	17	17
Paints and paint materials	29	3004	305
Paper	28	557	126
Pipe and pipe fittings	7	83	64
Refractories	3	108	60
Ribbons, typewriter	3	93	36
Road and paving materials	7	121	48
Roofing, bituminous and water-proofing	16	571	106
Rope, wire	1	15	15
Rubber matting	1	13	13
Safes, burglar-resisting	1	3	3
Scales, railroad track	1	7	7
Scales, weighing	1	33	33
Screws, wood	1	14	14
Soaps and scouring compounds	13	562	158
Tableware, silver-plated	1	7	7
Textiles	33	598	191
Towels	1	12	12
Tubing, metallic	4	61	49
Commercial standards	21	689	628
Total	356	13,948	5789

TABLE 1

Summary of willing-to-certify lists as applied to federal specifications and commercial standards

certain selected specifications, and willing, when requested to do so, to certify to the purchaser that the commodities delivered are guaranteed to comply with the requirements and tests of these specifications.

These lists of "willing-to-certify" manufacturers which are continually subjected to revision and enlargement are issued in the form of "letter circulars" (LC 256a and LC 277).

"Willing-to-certify" lists are mailed regularly

to practically all known governmental purchasing agencies, which include Federal, state, and local governmental agencies supported from taxes. (About 25,000 copies have been so distributed.)

The lists are mailed to the industries and the public only upon request. (About 2000 copies have been thus distributed, chiefly through the efforts of the National Association of Purchasing Agents.)

Up to the present the Bureau has applied the "certification plan" to but two groups of specifications; namely, to those of the Federal Specifications Board; and to "Commercial Standards" developed under the procedure of the Bureau's Division of Trade Standards.

The plan has been applied to 335 Federal Specifications, for each of which a list of "willing-to-certify" manufacturers has been issued. Fifty per cent of these and sixty per cent of the listings have to do with building materials.

The plan has been applied to 21 commercial standards, for each of which also a list of "willing-to-certify" manufacturers has been issued.

Extensive publicity has been given to the plan and to its operation. As will be noted in the accompanying summary (Table 1, page 7) it has been applied to a total of 356 specifications. The "willing-to-certify" lists contain the names of 5798 firms, which appear in 13,948 separate listings.

In some cases manufacturers' trade associations have taken an active part in the application of the plan to the commodities produced by their member companies.

The decision as to whether the plan shall be applied to commercial standards is left to the "general conference" responsible for the standard in question, at which conference the industries concerned are represented.

The decision as to which specifications the plan shall be applied is made by the Bureau in consultation with technical committees of the Federal Specifications Board. The purpose is to apply the plan to those specifications which have been "seasoned" and which are believed "to be thoroughly satisfactory to both producers and consumers."

In 1928 the Bureau extended this work to include promotional activities in connection with labeling. It is the view of the Bureau that its "certification plan" is primarily applicable to industrial and to governmental purchases, but that it is not well adapted to ultimate consumer goods.

For ultimate consumer goods that comply with recognized specifications, the Bureau is now actively advocating the use of what it terms the "self-identifying, quality-guaranteeing labeling system" as a guarantee of compliance. The Bureau calls this labeling plan to the attention of manufacturers who have asked to be included in the "willing-to-certify" lists.

The Bureau explicitly disclaims responsibility for "policing" to prevent abuses of the plan. It states:

> "We cannot believe that there have been no real causes for complaint of abuse in connection with the use of the willing-to-certify lists, but the fact remains that we have received not one single complaint of abuse where the person registering the complaint has requested certificates from the willing-to-certify manufacturers. The total number of complaints received by us is three. One of these was from the Navy Department and one was from the War Department, and in neither case had the purchasing officer asked for a certificate, and when we suggested that this plan be followed, no more complaints were heard. The other complaint came from the Building Owners and Managers Association of New York City which stated that a certain Brooklyn broom manufacturer had delivered to one member of that organization brooms which did not comply with the Federal specifications. Inquiry developed the fact that the broom manufacturer had not been asked to deliver a certificate and that when his attention was called to the failure of the brooms to meet the specification requirements, he immediately made adjustments which were thoroughly satisfactory to the complainer, who notified us at once to this effect.
>
> "Complaints relating to the use by manufacturers of claims that commodities marketed by them comply with specifications of the Federal Government have dealt almost exclusively with advertising matter rather than labels. Some of the very well-known manufacturers have been found guilty in this respect. In not one case has the manufacturer failed to rectify his advertising when his attention was called to the misrepresentation. The Bureau of Standards has no police power in this connection but the Federal Trade Commission not only has such power, but is exercising it regularly. If a manufacturer were to refuse to modify his claims after his attention had been called to misrepresentation therein, there can be no doubt that the Federal Trade Commission would become active without delay."

8

Other Illustrations

American Petroleum Institute—The work of the Institute covers a large group of materials

and supplies such as pipe, belting, tool joints, rig irons, derricks, cordage, and pumping equipment. The standardization program is one of the most complete and thorough to be found in any industry and is probably unique in the speed with which it has been carried out.

Each specification has appended to it a list of the manufacturers who furnish material in compliance with it. The Association grants the right to manufacturers to use the monogram on materials complying with the Association's standards. Some specifications provide for different grades of material and these are generally grade-marked. In connection with some dimensional standards, authorized manufacturers are required to have duly certified gages in their possession. The right to use the monogram is withdrawn from manufacturers for misuse. Recently a new policy has been adopted under which a manufacturer "shall forfeit this right if the monogram is not used on material manufactured or sold in accordance with the specifications within a period of 12 months after such authority has been granted."

On certain classes of material A.P.I. standards are used almost 100 per cent, and this applies particularly to material covering interchangeable threads and parts. "We are led to believe that the use of our standards has penetrated pretty thoroughly throughout the oil industry." "Practically all of the English and European pipe manufacturers have applied for the right to use our monogram." "Over one million dollars has been spent by the industry for master gages and special testing equipment alone. Our standardization handbooks have been very widely distributed both here and abroad." Arrangements have been made at the request of foreign manufacturers for the National Physical Laboratories of Great Britain and Germany to serve as official testing agencies for gages.

Structural Clay Tile Association—This Association authorizes its member companies to attach labels to tile which complies with the specifications of the American Society for Testing Materials and conforms to the standards of the Association.

The Association maintains a control inspection over the manufacturers' products. It states that more than 1,000,000 tons of tile are thus "certified" annually.

The following "Group II" rule has been included in the Federal Trade Commission Rules for the industry.

> "*RULE D.* The sale of structural clay tile of different sizes and weights from those established by the industry in Simplified Practice Recommendation No. 12 with the Department of Commerce or as promulgated by the Bureau of Standards or the American Society for Testing Materials, or as provided in the Specifications, or by the rulings of building departments in communities adopting and using other standards, is condemned by the industry."

Tire and Rim Association—This Association maintains a force of inspectors in all United States and Canadian factories for the inspection of rims to determine their compliance with the dimensional standards of the Association.

The cost of the inspection is divided between the manufacturers and the Association.

The number of rims inspected under this system has averaged more than 20,000,000 annually for the last seven years. It was 24,143,000 in 1929 and 17,364,000 in 1930.

Malleable Iron Research Institute—This organization is basing its trade promotion work primarily upon its "certified malleable iron" program, the purpose of which is to ensure a high quality material to customers of the member companies. The Institute conducts daily laboratory tests on samples of the products of member companies. Formal certificates are issued quarterly to those members whose products have consistently met the requirements of the Institute. Official lists of certificate-holding companies are issued to the trade quarterly.

> "The product (castings) is such that it does not permit of placing either an official seal or symbol thereon. The best that can be done, under the circumstances, is for members to use the official seal or trademark of the Institute on the shipping advices, shipping tags, containers, etc. Then again, any symbol, if placed directly on the casting, would be removed in machining operations, and thus lose its identification value.
>
> "On the whole, the procedure of the Institute in the issuance of certificates, in the maintenance of a standard quality of product and in the adherence of certificate-holding members to the rules and regulations of the Institute and its standards of performance is carried out with no great amount of difficulty and with a surprisingly small amount of dissatisfaction."

American Gas Association—This Association maintains a research and testing laboratory and its purpose is the improvement and development of gas-burning appliances. One of its chief functions is the testing for approval purposes of gas-burning appliances. Definite criteria under the name of "Requirements," which are essentially technical specifications, are used by the laboratory as a basis of approval.

(The committee in charge of the preparation of these "Requirements" has now been broadened into a sectional committee under ASA procedure.)

In its six years of activity the laboratory has approved 16,200 models and appliances. A list of such approvals is issued monthly. A very great majority of the models failed of approval when first submitted and have been modified by the manufacturers in order to comply with the "Requirements."

The Association has adopted a mark of approval called "Laboratory Approval Seal" which manufacturers may attach to appliances which have been approved by the laboratory as complying with the "Requirements." "We have every reason to hope that they (manufacturers) will, in the construction of their equipment exceed our requirements and we do all that we can within the limits established by our policies to encourage them to do so." "The requirements, therefore, assure safety first of all; and secondly, a reasonable degree of durability inseparable from safety; thirdly, a reasonable operating efficiency."

After some four years of operation the Association made a careful appraisal of its experience up to that time and in the light of this experience and of criticisms which had been made by manufacturers, operating companies, and others, introduced modifications into the plan, leaving it in the form which has been outlined.

In general, operating companies which have sales departments handle only those lines of appliances which have been approved. A number of cities require A.G.A. approval on gas-burning appliances used within their jurisdiction. It is estimated that the value of the approved appliances sold annually is $375,000,000. It represents about three-fourths of the total production.

Society of Automotive Engineers—Materials covered by the work of the Society include many of the raw materials and finished products going into the construction of automotive vehicles as well as some of the materials required for their operation. Such diverse materials as steel alloys, brass alloys, aluminum alloys, storage batteries, bearings, gages, and tires are covered.

In the *SAE Handbook*, which is published annually and which contains all SAE standards and recommended practices, a list of manufacturers of products conforming to SAE specifications is published. This list consists of names of manufacturers grouped under the product which they manufacture in accordance with the Society's specifications, reference to the specific specification being made after the name of the product. The list further includes information as to whether or not the manufacturer carries a complete stock, partial stock, or no stock of the product in question. The list does not presume to contain the names of all, or even a majority, of those who manufacture in accordance with SAE standards and specifications.

In order for a manufacturer to secure listing, it is necessary that an affidavit signed in the name of the manufacturer by the chief engineer and sales manager of the company be submitted to the Society. The affidavit shows the products which conform to a given SAE standard, together with the items of which a full line of stock is carried and the items of which a partial line is carried in stock.

In addition to the above-mentioned list it may be noted that advertising in the *SAE Handbook* is limited to organizations producing at least some material in accordance with the Society's specifications.

One SAE standard which has found wide use is that which designates the viscosity numbers of lubricating oils. In this case an SAE viscosity number is assigned on the basis of a viscosity test and the use of the SAE numbers has in many cases supplanted the manufacturer's designation, such as "light," "medium," "heavy," etc. The SAE number covering that particular oil is stamped on the container in which the oil is sold. In most of the products covered by the SAE standards, no marking system is employed. A method is being developed at the present time for designating alloy steels according to the SAE specification numbers for such material. At the present time this class of material is very largely bought and sold on the basis of the Society's specification numbers.

Representatives of the Society state that no abuses of the listing scheme have been received recently which have not been the result of legitimate mistakes. They further state that this condition is very largely due to the close check which competing manufacturers keep on one another's products, such as lubricating oils. If oil which is, in fact, not in accordance with the SAE viscosity numbers finds its way to the market a competing manufacturer is certain to become acquainted with the fact and the information almost surely finds its way into the hands of the consumers.

U. S. Public Health Service and Department of Health of New York City—A very large quantity of milk is sold annually under inspection and grade-marking programs. The inspection and grade marking is done in practically every instance under requirements made mandatory in municipal ordinances and/or state laws.

The U. S. Public Health Service promotes the adoption of a standard milk ordinance and code. The U. S. Department of Agriculture joins with the Public Health Service in recommending the latter's program of milk inspection and grade marking. It is stated by the U. S. Public Health Service that the annual value of the milk sold under the grading provisions of the standard milk ordinance is estimated at approximately $100,000,000 per year. This estimate was made on the basis of 247 of the 440 American municipalities which have thus far adopted the ordinance.

It may be noted that the adoption of the standard ordinance of the U. S. Public Health Service has, in general, been confined to the smaller cities and towns, the larger cities having adopted regulations covering milk which differ in greater or less degree from the standard ordinance of the Public Health Service. The regulations of New York City, for example, applying to milk are enforced by a corps of inspectors who regularly cover the milk-producing regions in seven states and in two provinces of Canada. In addition, daily samples for laboratory tests are taken from milk-distributing agencies within the city. Milk sold in New York City amounts to about 3,500,000 quarts daily and has an annual value in excess of $150,000,000.

9

Testing and Approving Institutes Maintained by Periodicals

Detailed information in regard to their work has been secured from the following laboratories or institutes maintained by periodicals:

Child Life Testing Kitchen & Home Laboratory
Delineator Institute
Good Housekeeping Institute
Household Searchlight
McCall's Home Economics Service
Parents' Magazine Advisory Service
Physical Culture Institute of Nutrition
Popular Science Institute

After careful study of the material, it seems better not to attempt to include it in Table 2, since these organizations operate on somewhat different bases then those there listed.

These organizations deal chiefly with products intended for the ultimate consumer. They operate approval systems based on inspection, laboratory, and service tests. None of them classify into grades, their action being a simple approval or non-approval. Most of them use a seal, the use of which is authorized on labels and in advertising. Most of them also issue lists of approved products.

The periodicals operating these organizations do not accept advertisements for products which have failed of approval. One of their principal purposes is to serve as a means of eliminating extravagant claims in the advertising pages of the periodicals.

These organizations have often been criticized for not making public the specifications serving as criteria upon which approval is based. Since the present study is concerned with certification and labeling in accordance with recognized specifications, a special point was made of this question in the correspondence with these organizations. But one of the organizations, the Good Housekeeping Institute, furnished samples of its test procedures and requirements used as a basis for approval. In transmitting these, this Institute stated:

> "We have never prepared our test procedures or requirements for general publication. However, these are available to interested parties.... Of course, in work such as ours, the expert judgment of our testing staff is of great importance in arriving at decisions. It should be remembered that much of the equipment that we test is quite special and can be judged only on the basis of general performance, and considerations such as materials of construction, workmanship, and so forth."

Some of the institutes' approvals are extensively used in labeling and in advertising.

Other periodicals, for example, the *Ladies' Home Journal*, are giving by other means some form of technical guidance to their readers for purchasing.

The periodicals state that they are receiving a large volume of inquiries for guidance in purchasing, in one case as many as one hundred thousand per year.

10

Mandatory Labeling and Grade Marking and Legally Enforced Standards

Legally enforced standards constitute a special type of "certification" since the commodities covered by them have to comply with specifications laid down by statute or by legally enforced regulations. Furthermore, there are numerous cases in which labeling or grade marking is required by law. Under all such conditions the policing is done by a governmental agency.

Several examples of legally enforced standards have been included in Table 2 and in the above

descriptions, most of them taken from the Federal Government, and the majority of them having to do with food, drugs, and agricultural products.

As shown in the article by Jacob Aronson in the ASA BULLETIN for August, 1931, there is now an extensive volume of state legislation dealing in most part with these same classes of commodities. For example, nearly all of the states have established legally enforced standard grades of, and containers for, apples. In many cases the state law follows the federal statute, extending its provisions to intra-state commerce.

Standards based on legal enactments may be classified in three categories:

1. Mandatory requirements laid down in the statute;

2. An administrative agency authorized or required by statute to establish mandatory standards through administrative regulations;

3. Permissive standards set up by statute, or by administrative agencies under statutory authorization.

There is a general impression that legally enforced standardization is largely limited to food, drugs, and agricultural products, but this is by no means the case. Such diverse commodities as sole leather, tractors, naval stores, paints, mattresses, and petroleum products are included. For example, fourteen states have laws with respect to standards for petroleum products and containers for them. These include such matters as the quality and purity of gasoline, kerosene, and benzine.

An entirely different method of bringing about the legal enforcement of specifications has recently arisen through the Trade Practice Rules of the Federal Trade Commission. In 1928, at the instance of the Hickory Handle Association, legal enforcement of grading and of grade marking of hickory handles was undertaken through a group of trade practice rules. All but one of Group I and Group II rules resulting from the Trade Practice Conference deal with grade and grade marking as laid down in Simplified Practice Recommendation No. 77.

Informal conferences at that time between representatives of the Federal Trade Commission and the Department of Commerce led to the conclusion by the Department of Commerce representatives that the legal enforcement of simplified practice recommendations formulated voluntarily under the auspices of the Department of Commerce would not be advantageous and should not be encouraged.

(NOTE: In response to a formal inquiry from the Secretary of Commerce concerning the legal status of commodity standardization and simplification from the restraint-of-trade point of view, the chairman of the Federal Trade Commission replied under date of March 12, 1931, that "In no matter has the Commission ever held standardization of commodities by the members of an industry to be violative of any of the statutes it has the duty of enforcing. On the contrary, the Commission regards the work of the Department of Commerce in encouraging standardizing of commodities as important and beneficial to the public.")

Complications have arisen under these rules, as, for example, in intra-state as contrasted with inter-state commerce. In a letter to ASA the Hickory Handle Association states: "The handle industry would have been better off had we not gone into the program, particularly compulsory grade marking."

II

Present Incidence of These Activities upon ASA Work

The American Standards Association has not taken any position in regard to certification and labeling. There have been extensive discussions in the Standards Council and in committees, but no decisions. The nearest related action is the following resolution adopted by the old "Main Committee" in 1924, regarding references to standards in advertising:

> "In the opinion of the American Engineering Standards Committee the use, in the advertising of products which comply with specifications and other standards approved by the Committee, of proper references to such standards, is advantageous and makes for industrial economy; accordingly, the Committee desires to encourage the use of such references in trade catalogs and other advertising media, but the Committee will in no case pass upon the merit of products, or upon their compliance with specifications or other standards; which questions it will leave to the commercial and legal agencies equipped for such work." (Resolution, March 27, 1924.)

Hitherto no study has been made to determine to what extent the activities of other organizations with certification and labeling methods have involved ASA work. In the present study it has been found that a considerable number of ASA projects have become involved

in certification and labeling activities of other organizations. This includes both completed approved standards and, in some cases, projects in process.

Bureau of Standards—The Bureau's "willing-to-certify" lists include the following ASA projects:[4]

ASA Project		*Government Document*
A1-1928	Portland Cement (69)	Fed. Spec. 1a
A21	Cast Iron Soil Pipe, Coated and Uncoated (14)	Fed. Spec. 343a
A21	Cast Iron Pipe Fittings (13)	Fed. Spec. 489
A40	Staple Porcelain (all clay) Plumbing Fixtures (9)	Com. Std. CS4-29
A40	Staple Vitreous China Plumbing Fixtures (list not yet available)	Com. Std. CS20-30
A42	Gypsum Plaster (25)	Fed. Spec. 247
A42	Calcined Gypsum (24)	Fed. Spec. 248
A42	Hydrated Lime for Structural Purposes (47)	Fed. Spec. 249
A42	Quicklime for Structural Purposes (55)	Fed. Spec. 250
A43-1930	Putty (list being revised)	Fed. Spec. 283
B1	Wood Screws (14)	Fed. Spec. 52a
B42	Leather Belting (66)	Fed. Spec. 37
C8d1-1928	30% Rubber Insulation for Wire and Cable for Ordinary Purposes (23)	Fed. Spec. 587
C18-1930	Dry Cells and Batteries (22)	Fed. Spec. 58a
K14-1930	Liquid Soap (88)	Fed. Spec. 27
K16-1930	Dry Red Lead (list being revised)	Fed. Spec. 11
K19	Domestic and Industrial Fuel Oils (51)	Com. Std. CS12-29
M11-1927	Wire Rope (15)	Fed. Spec. 297

Underwriters' Laboratories—The Underwriters' Laboratories makes use of several American Standards in its work. It approves and labels various kinds of insulated wire as being "National Electrical Code Standard," the National Electrical Code C1-1931 being an approved American Standard. The Underwriters' Laboratories is proprietary sponsor for a project covering "electrical materials and devices with relation to fire and casualty hazards" (C33), under which standards and specifications for the performance and inspection of the class of material indicated by the title will be formulated. One specification, "Outlet Boxes," (C33a-1929) has been approved as American Standard.

The American Tentative Standard for Fire Tests of Building Construction and Materials (A2-1926) forms the basis of the standard fire test upon which the grading, certification, and listing of hollow concrete building blocks and hollow clay building tile by Underwriters' Laboratories are carried on.

The following are also used by Underwriters' Laboratories in their approvals and listings: Screw Thread for Fire Hose Couplings (B26-1925); Cotton Rubber-Lined Fire Hose (L3-1929).

Other Organizations—The National Electrical Code is a fundamental part of the Red Seal Plan of the Society for Electrical Development for adequate electric wiring of homes.

The Portland Cement Association makes compliance with the specifications for Portland Cement (A1a-1931) a condition of membership in the Association.

The American Standard on Spiral Steel Rods for Concrete Reinforcement (A38-1927) is endorsed by the Concrete Reinforcing Steel Institute, and work on Steel Reinforcing Bars (A47) is carried on by the Rail Steel Bar Association.

The Bell System in all of its purchases of dry cells and batteries requires the batteries to have a special jacket which indicates that they comply with the American Standard for Dry Cells and Batteries (C18-1930) in respect to size and type.

The Sectional Committee on Specifications for Sheets and Sheeting (L4) is now deadlocked over the question of whether sheets should carry labels containing certain information in standard form.

The Sectional Committee on Standards and Specifications for Refrigerators (B38) has a subcommittee on nameplate data, and it is the intention of the Committee to include certain rating or performance data, relating this to the standard test method. This is similar to, and may be somewhat of an elaboration of, the methods now in wide use by manufacturers of machinery in giving rating data on nameplates, such, for example, as in the case of electric motors.

As noted in Table 2, the National Bureau of Casualty and Surety Underwriters is administrating an approval system for elevator interlocks and gate contacts as provided in the American Standard Safety Code for Elevators, Dumbwaiters, and Escalators (A17-1931).

The A.S.M.E. has initiated a plan of placing an asterisk before the names of firms whose products are made in accordance with a certain approved American Standard. Only a very small beginning has been made.

Also, as noted in the same table and explained more fully above, the American Gas Association is operating an approval system, including the use of a seal, in connection with "Requirements" for gas-burning appliances. These "Requirements" (Z21), which are now being handled under regular procedure of ASA, include requirements for gas water heaters, gas ranges, space heaters, central heating gas appliances, etc.

[4] Approved standards are indicated by the year appearing as a part of the project symbol. Others are in process. The numbers in parenthesis indicate the number of manufacturers whose names appear on the "willing-to-certify" lists.

Table II

SUMMARY OF CERTIFICATION AND LABELING ACTIVITIES

LUMBER

Name of Organization	*1. Approvals issued*	*2. Use of labels or grade markings*	*3. Use of seal or mark*	*4. "Certification"*	*5. Agency doing inspection and grading (by lab. tests?)*	*6. Agency responsible for policing*	*7. Rough estimate of value of products sold annually under these methods*	*8. Remarks*
National Lumber Manufacturers Assn.	Yes	Bulk grade marking of carload lots and grade marking of individual pieces	Yes	Yes—The Association guarantees that branded lumber conforms to specifications indicated by the brand. A list of those licensed to brand is published from time to time.	Manufacturer under control checks by the Association and affiliated associations.	Affiliated associations and N.L.M.A.	35% of entire softwood cut is grade-marked; 50% is certified. 45 to 50% of entire hardwood cut is certified.	It is generally accepted that grading and certification have greatly raised the tone of the lumber business. This is probably due in a large measure to the fact that the N.L.M.A. guarantees financially that part of the shipment not coming up to inspection.
Hardwood Manufacturers Institute[1]	Yes	Bulk grade marking by carload lots only	Yes	Grading certified by car cards	Manufacturer under control checks by the Association.	The Institute	2,000,000,000 board feet	"We again unqualifiedly say that the Car Card Plan has established confidence of consumers in the mills' grade and measurement; that it has made the mills more careful in their inspection, both as to grade and measurement and that it has stopped 90 per cent of the complaints that were heretofore made on shipments."
Northern Hemlock and Hardwood Manufacturers Assn.[1]	Yes	Bulk grade marking of carload lots and grade marking of individual pieces	Yes	Grading certified by car cards. A list of licensed members is published.	Manufacturer under control checks by the Association.	The Association	300,000,000 board feet of hardwood and 200,000,000 board feet of hemlock	
Southern Cypress Manufacturers Assn.[1]	Yes	Bulk grade marking of carload lots and grade marking of individual pieces	Yes	Association certificate supplied upon request	Manufacturer under control checks by the Association.	The Association	130,000,000 board feet grade- and trade-marked; 162,000,000 board feet available with manufacturer's certificate of grade and tally	
Southern Pine Assn.[1]	Yes	Bulk grade marking of carload lots and grade marking of individual pieces	Yes	A list of mills in a position to furnish official grade-marked pine lumber is published by the Association.	Manufacturer under control checks by the Association.	The Association	3,500,000,000 board feet, one third of the total annual production of pine lumber	"Practically all of our advertising and trade promotion effort has revolved about grade marking."

		individual pieces		Association.			of pine lumber	

WEST COAST LUMBERMAN'S ASSN.[1] (*Douglas Fir, West Coast Hemlock, Sitka Spruce, Western Red Cedar Lumber*)	Yes	Bulk grade marking of carload lots and grade marking of individual pieces	Yes	Grading certified by shippers' certificates and grade marking on the lumber	Manufacturer under control checks by the Association.	The Association		"We believe our grade and trade marking and general grade supervision at member mills as now conducted is giving quite satisfactory results."
WESTERN PINE MANUFACTURERS ASSN.[1] (*Pine, spruce, fir, and cedar lumber*)	Yes	Bulk grade marking of carload lots and grade marking of individual boards	Yes	Grading certified by shippers' certificates and grade marking on the lumber	Manufacturer under control checks by the Association.	The Association	983,000,000 board feet; 921,000,000 board feet available with manufacturer's certificate of grade and tally	
MAPLE FLOORING MANUFACTURERS ASSN.[2] (*Northern hard maple, beech, and birch flooring*)	Yes	"MFMA" stamped on back of each piece and "MFMA" and grade marking on each bundle	Yes	Grading certified by shippers' certificates	Manufacturer under control checks by the Association.	The Association	79,000,000 board feet	
RED CEDAR SHINGLE BUREAU[2]	Yes	A label indicating the grade is attached to the product.	Yes	The Bureau expects to furnish lists of member companies supplying certified shingles. In addition the Bureau of Standards will publish a list of "Willing-to-Certify" manufacturers under CS 31–31.	Inspectors of the Washington and Oregon Shingle Association aud the British Columbia Lumber and Shingle Mfrs. Assn.	The Bureau	It is estimated that not less than $16,000,000 worth of shingles will be manufactured under grading and certification.	"All we can state to date is that it (the plan) is being very generally accepted by manufacturers, 95% of the machine capacity having signed acceptance of the Commercial Standard with the Department of Commerce."
NATIONAL HARDWOOD LUMBER ASSN.		By carload lots only	Yes	Grading certified by carload lots	Manufacturer or Association	The Association		The Association operates independently of the National Lumber Manufacturers Association.
AROMATIC RED CEDAR CLOSET LINING MANUFACTURERS ASSN.	Yes	Labels guaranteeing compliance with Commercial Standard CS 26–30 are provided for the use of members upon the product and in advertising.		Only that done in connection with the certification plan of the Bureau of Standards	Manufacturers' inspectors	None done		
NATIONAL RETAIL LUMBER DEALERS ASSN.								"We are today putting our emphasis behind the American Lumber Standards and the grade-marked lumber feature, believing that this is the best method of certification in the lumber business. We want to see every lumber dealer stock at least a goodly portion of grade-marked lumber and let the public in its community know that it is to be had at his yard. In this we are cooperating with the National Lumber Manufacturers Association."

[1] Affiliated associations of the National Lumber Manufacturers Association.
[2] Cooperating associations of the National Lumber Manufacturers Association.

Name of Organization	*1. Approvals issued*	*2. Use of labels or grade markings*	*3. Use of seal or mark*	*4. "Certification"*	*5. Agency doing inspection and grading (by lab. tests?)*	*6. Agency responsible for policing*	*7. Rough estimate of value of products sold annually under these methods*	*8. Remarks*
California Fruit Growers Exchange		Grade markings	Grade names are trademarked		Local association	The Exchange. Daily control inspection	$130,166,900	
Apple Growers Assn. (*Hood River*)		Grade markings on all boxes	Grade names are trademarked		Local association	The Association. General supervision of state		
Skookum Packers Assn. (*Apples*)		Grade markings on all boxes	Grade names are trademarked		Local packing association		$5,250,000	The cost of marketing is 10c per box; cost of handling advertising, of inspection and field work, etc., of association office is 3c per box.
Yakima Fruit Growers Assn. (*Big Y Apples*)		Grade markings on all boxes	Grade names are trademarked	60% of shipments carry Federal-State certificates of inspection.	Local association	The Association. General supervision of state	$3,000,000	
The New England Council, New England Assn. of State Marketing Officials (*Farm food products*)		Labels bearing New England seal, grademarked by state grades		State Departments of Agriculture publish lists of producers selling labeled produce.		Commissioners of Agriculture of the six states concerned	About 2 or 2½ million dollars	"One example of this involved the sale of labeled tomatoes in Maine last year when the largest dealers in the State told me that they could handle all the labeled tomatoes they could get, while at the same time their store-room was piled with unlabeled, yet fairly good, tomatoes that they could not sell due to the great surplus on the market. Buyers from stores and hotels prefer to buy graded goods." "The principal difficulty encountered carrying out the program is that, to a great extent, the label users are small independent farmers and that the volume of labeled produce that can be assembled at any one place at a given time is limited."
Commission on Standardization of Biological Stains	Yes	Certificate labels used	Yes	Names of manufacturers of satisfactory stains are published.	The Commission	The Commission	Ten to fifteen thousand packages of stains	"As to the value of our work, the general consensus of opinion seems to be that it is proving very effective. We receive so many unsolicited compliments on what we have accomplished that I am quite sure the users of biological stains appreciate the work."
American Medical Assn. (*Medicines and foods*)	Yes	Use of the statement of approval on labels is authorized.	Yes	Lists of approved products published by the Assn.	Laboratory tests are made by the Assn.	The Association		Products are not accepted if advertising claims are deemed excessive. Reasons for refusal to accept are always published, and this is the Association's most powerful means of policing. Representatives of the Association state that the better firms seek approval of new products before going on the market, and irresponsible firms avoid contact.

								approval of new products before going on the market, and irresponsible firms avoid contact.

AMERICAN DENTAL ASSN. (*Dental remedies*)	Yes			Lists of approved products published by the Association.	The Association	The Association		Methods closely resemble those of the American Medical Association. (*Above*)
U. S. DEPARTMENT OF AGRICULTURE—FOOD AND DRUG ADMINISTRATION. (Includes U. S. Pharmacopoeia and National Formulary.) (*Drugs, foods, insecticides, and naval stores*)	Administers six Federal Acts: Food and Drugs, Tea, Import Milk, Insecticides, Caustic Poisons, and Naval Stores. The Federal Food and Drugs Act prevents the sale of adulterated or misbranded or deleterious foods and drugs; *e.g.*, a drug sold by name, or synonym, recognized in the U. S. Pharmacopoeia or National Formulary must conform to these specifications or be labeled as departing, and how.					Food and Drug Administration		The Mapes amendment to the Act (which was sponsored by the National Canners Association), effective July 8, 1930, covers principally canned fruits and vegetables. Under it essentially two grades are set up, the lower of which must be labeled "Below U. S. Standard, low quality, but not illegal."
U. S. BUREAU OF AGRICULTURAL ECONOMICS (*Hay, grain, cotton, fresh fruits, and vegetables, meats, poultry, eggs, dairy products, and other similar products*)	Yes	Yes. Mandatory on some products and permissive on many others.	A distinctive mark is used in some cases	Certificates of inspection issued	The Bureau, or inspectors licensed by it	The Bureau		Some of the work, particularly the earlier part, is mandatory under federal law for interstate commerce, or for dealings in futures on commodity exchanges. For cotton, its use is now extended to foreign exchanges dealing in American cotton. A regular schedule of inspection fees is charged to cover cost of inspection. The Bureau has approximately 250 employed supervisors, inspectors, graders, and classifiers, and 2400 licensed inspectors.
CALIFORNIA STATE DEPARTMENT OF AGRICULTURE (*Canned food*)	The State Law of California now requires same form of labeling sub-standard products as Mapes Amendment to Federal Food and Drugs Act. (*See U. S. Food and Drug Administration.*)					California State Department of Agriculture		This new provision of the California law was sponsored by the Canners League of California.
AMERICAN ASSN. OF MEDICAL MILK COMMISSIONS, INC. (*Certified milk*)	Yes	One grade only	Yes	Seal on bottle cap indicates compliance with the regulations of the Commission	Bacteriological and chemical examinations as to quality and purity	County medical milk commissions		

Fresh fruits and vegs.	370,000 cars	$222,000,000
Tobacco	40,000,000 lb	4,800,000
Cheese	500,000 lb	75,000
Eggs	400,000 cases	3,000,000
Hay	35,000 cars	10,500,000
Meats	100,000,000 lb	15,000,000
Poultry, turkeys, and rabbits	10,000,000 lb	2,500,000
Poultry, New York City	12,000 cars	48,000,000
Butter	175,000,000 lb	52,500,000
Dressed chicken for canning	20,000,000 lb	4,000,000
Grains (corn, wheat, barley, oats, sorghum, and rye) total farm value (The total number of cars inspected during 1929 was 1,916,000. This includes duplictions, as many cars were inspected twice.)		3,733,258,000
Cotton	3,500,000 bales	157,500,000

Name of Organization	*1. Approvals issued*	*2. Use of labels or grade markings*	*3. Use of seal or mark*	*4. "Certification"*	*5. Agency doing inspection and grading (by lab. tests?)*	*6. Agency responsible for policing*	*7. Rough estimate of value of products sold annually under these methods*	*8. Remarks*
U.S. PUBLIC HEALTH SERVICE (*Milk*)	The Service advocates the adoption of uniform ordinance for the inspection and grading of milk. The ordinance defines grades and various conditions incident to the sale of milk, such as licensing of distributors, inspection of farms and plants, testing, inspection, etc.			Distributors are required by the ordinance to plainly print the grade designated on each container. In many instances results of inspection are available to the public.	Department of Health of municipalities adopting ordinance	Health officers of municipalities adopting ordinance	The annual value of the milk sold in 247 of the 440 municipalities which have thus far adopted the ordinance is $100,000,000.	(*See also Department of Health of New York City.* In general the ordinance of the Public Health Service has been adopted only in smaller towns and cities. The item covering Department of Health, New York City, is an example of the method of handling the situation in a large city.)
DEPARTMENT OF HEALTH OF NEW YORK CITY (*Milk*)	Yes	All milk sold must be grade-marked and no milk may be sold under grading until the source of supply has been approved by the Board of Health.	No	Each milk distributor is responsible for the correct grade marking of the milk which he sells.	The Department of Health. At least 350 check samples are taken daily. Results of inspection are available to the public.	The Department of Health	Milk sold in New York City amounts to 3,500,000 quarts daily and has an annual value in excess of $150,000,000.	All major municipalities have similar grading, inspection, and control systems. For the marking under the uniform ordinance, see U.S. Public Health Service.
NATIONAL PRESERVERS ASSN.	No	No		Some member companies issue written guarantees of compliance with Association standard.	Association inspects on request.	Association assists State and Federal Governments		Association states that as result of its policies and educational work the proportion of compound grade to pure or standard grade has been reduced and that they doubt if 20% of the goods now sold are of the sub-standard grade and that in almost all cases the sub-standard grades are properly labeled. The Association is supporting Senate Bill No. 3470 to provide Federal regulation.
NATIONAL COTTONSEED PRODUCTS ASSN.	A complete set of grading rules covering transactions by the members, who are crushing mill owners, refiners, dealers, brokers, accessory manufacturers, consumers for remanufacturing, etc., have been adopted. Compliance with the rules guarantees to members, who are both consumers and producers, that the material for which they contract will be in accordance with the grading rules of the Association or appropriate adjustments will be made. The rules are based upon quotations on "basic cotton seed," premiums being paid for better than "basic" and deductions being made for "off quality." Some of the subjects covered by the rules are "Definitions of grade and quality;" "Permissible variation as to grade and quality;" "Packages;" "Appointment, duties, and fees for inspectors;" "Sampling;" "Weighing;" "Methods of chemical analysis;" and "Arbitration." The Association will expel any member who will not abide by the findings of arbitration committees or who otherwise violates the rules, a notice of such expulsion being sent to all other members.					The Association		

		expel any member who will not abide by the findings of arbitration committees or who otherwise violates the rules, a notice of such expulsion being sent to all other members.						

BUILDING

THE WALLPAPER ASSN. OF THE U.S.	Yes	Association seal stamped on back of paper complying						"We feel that the adoption of this seal has been tremendously influential in raising the general standard of American papers. The ungrounded papers and cheap stock are rapidly disappearing from the market, and we believe that when the Association finally begins to advertise the seal to the consumer, as we intend to do, it will practically force all the manufacturers to adopt the standard for their complete line, which will mean a much higher grade or product."
COMMON BRICK MANUFACTURERS ASSN.	Test certificates issued to manufacturers for sales promotion work show compliance with A.S.T.M. and Federal Specifications.	No	Yes	Utilize Bureau of Standards "Willing-to-certify" plan.	Tests at Bureau of Standards by Association fellow	The Association, but policing has not been necessary.		
HEATING AND PIPING CONTRACTORS NATIONAL ASSN. (*Heating installations*)	Yes	Label plates	Yes	Certificate issued to owner.	Local association	Local and national associations		"This has been a very serious effort on our part to improve the quality of the work done in residential building, especially the speculative sort, and we feel that we have made distinct progress with it. We are very glad to see your Association taking an interest in this, as we believe that this is one of the practical applications of standards work in industry." "We believe that Certified Heating has been of a great deal of value in building goodwill for the heating industry.... It has also been of real value in building up the morale of the responsible heating contractor in selling his services to the public. The only difficulty that we have encountered in demonstrating this plan is that encountered in selling any new idea."
ASSOCIATED GENERAL CONTRACTORS OF AMERICA (*Concrete mixers*)	Yes	A "rating plate" bearing the A.G.C. seal is affixed to the mixer. Also states capacity.						
ASSOCIATED TILE MANUFACTURERS (*Clay tiles for floors and walls*)	No	Labels per grades of Simplified Practice Recom. No. 61	No	Trade journals of the Tiling Contractors Organization publish a list of manufacturers.	The manufacturers	Policing has not been necessary to date.	$10,000,000	

Name of Organization	*1. Approvals issued*	*2. Use of labels or grade markings*	*3. Use of seal or mark*	*4. "Certification"*	*5. Agency doing inspection and grading (by lab. tests?)*	*6. Agency responsible for policing*	*7. Rough estimate of value of products sold annually under these methods*	*8. Remarks*
STRUCTURAL CLAY TILE ASSN.	Labeled as complying with A.S.T.M. specifications		Yes	List of participating manufacturers issued by Association and by Bureau of Standards	Manufacturers; control inspection by Association	The Association	More than one million tons of this class of material certified annually	The following "Group II" rule has been included in the Federal Trade Commission rules for the industry: "The sale of structural clay tile of different sizes and weights from those established by the industry in Simplified Practice Recommendation No. 12 with the Department of Commerce, or as promulgated by the Bureau of Standards, or the American Society for Testing Materials, or as provided in the specifications or by the rulings of building departments in communities adopting and using other standards, is condemned by the industry."
SOCIETY FOR ELECTRICAL DEVELOPMENT (*Home electric wiring installations*)	Yes	Yes	Yes	A certificate issued if it is found that an installation meets the Franklin Specification of the Society	The Society or local association		1929—10,000 homes 1930—8000 homes	
RAIL STEEL BAR ASSN. (*Concrete Reinforcing steel*)		The Rail Symbol is rolled on all deformed bars.		R.S.B.A. publishes a list of its member companies.	Laboratory tests by the manufacturer and the Committee on Metallurgy of the R.S.B.A.	The Association		
UNITED ROOFING CONTRACTORS ASSN. OF NORTH AMERICA (*Raw materials used in the manufacture of roofing*)	Yes	Labels bearing the seal of the U.R.C.A. are sold to manufacturers of approved pitch, tar, and felt.		Their member companies are advised of the manufacturers authorized to use the U.R.C.A. label.	Factory tests and inspections	The Association	$100,000	Their methods are for the protection of member companies. Only two producers of felt, tar, and pitch are yet authorized to use the U.R.C.A. label.
MISCELLANEOUS								
AMERICAN GAS ASSN. (*Gas-burning appliances*)	Yes	Labels	Yes	Monthly list of approved gas equipment issued	The manufacturer	The Association	$375,000,000. It is estimated that 75% of all domestic appliances sold last year were of approved types.	"We have set up certain basic standards below which no manufacturer may fall and yet secure our approval. We have every reason to hope that they will in the construction of their equipment exceed our requirements, and we do all that we can within the limits established by our policies to encourage them to do so. Being based very largely on performance tests designed primarily to insure safety and considering such construction requirements as are essential in maintaining safety, we do not feel that our approval has any very definite relationship to the price that is charged for appliances." A number of cities, by regulation, require AGA approval on all gas-burning appliances.

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AMERICAN PETROLEUM INSTITUTE (*Oil field equipment*)	Association monogram used on material complying with Association standards. Same classes grade-marked.			Each specification appends list of manufacturers complying.	The manufacturer	The Association	25% of manufacturers reported $41,300,000.	"On certain classes of material A.P.I. standards are used almost 100 per cent and this applies particularly to material covering interchangeable threads and parts.... We are led to believe that the use of our standards has penetrated pretty thoroughly throughout the oil industry.... Practically all of the English and European pipe manufacturers have applied for the right to use our monogram.... Over one million dollars has been spent by the industry for master gages and special testing equipment alone. Our standardization handbooks have been very widely distributed both here and abroad."
ASSN. OF AMERICAN FEED CONTROL OFFICIALS (*Feeding stuffs—manufactured feed for animals*)	State and federal laws (45 states) require labels showing ingredients and guaranteed analyses (proteins, fats, and fibers).		State officials publish lists of all brands sold in state, comparing labels and analyses of samples purchased on open market.			State, Dominion, and federal officials		"All but three states, I believe, have feed laws. These laws require guarantees for protein, fat, and fiber, as well as a declaration of ingredients to be shown on the outside of the sack in which the product is marketed."
ASSOCIATED FACTORY MUTUAL FIRE INSURANCE COMPANIES (*Devices and materials with relation to fire hazard*)	Yes	Labels used	Yes	Issue list of approved products	Laboratory tests and factory inspection	The Association		
DIAMOND CORE DRILL MANUFACTURERS ASSN.		Labels indicating compliance with standard	Yes	Utilize Bureau of Standards "Willing-to-certify" plan.		None yet. No complaints yet received.		"The new plan has not been in use for a long enough period to give any estimate concerning the value and effectiveness of the method used."
MALLEABLE IRON RESEARCH INSTITUTE		Use of Institute trade-mark "Certified Malleable Iron" on invoices, shipping tags, and containers		Quarterly list of companies whose product meets the requirements of the Institute is published.	The Institute conducts daily laboratory tests of samples from plants of each member company.	The Institute	$35,000,000	"The procedure of the Institute in the issuance of certificates, in the maintenance of a standard quality of product, and in the adherence of certificates holding members to the rules and regulations of the Institute and its standards of performance are carried out with no great amount of difficulty and with a surprisingly small amount of dissatisfaction."
THE MIRROR MANUFACTURERS ASSN.	No	Grade-mark labels for both new and resilvered mirrors	Yes	Yes—according to the Bureau of Standards Certification Plan	Member companies	Local members will adjust claims for distant fellow-members.		"Through this service a great deal of time, trouble, and expense has been saved, as false claims have been exposed.... The results have exceeded our early expectations when the service was inaugurated."
THE HICKORY HANDLE ASSN.		Grading rules and recommendations for grade marking were adopted in 1927 as Simplified Practice Recommendation No. 77. Later the experiment was undertaken of making grade marking legally compulsory through authority of the Federal Trade Commission by means of trade-practice rules.						"While in theory this program seemed to be exceptionally good, it did not work out so well in actual practice. "The handle industry would have been better off had we not gone into the program, particularly compulsory grade marking. We have come to the conclusion that if a manufacturer wishes to market handles under a private brand, he may do so without symbol-marking the handles, but should he attempt to sell any No. 77 grades, it should by all means be symbol-marked."

Name of Organization	*1. Approvals issued*	*2. Use of labels or grade markings*	*3. Use of seal or mark*	*4. "Certification"*	*5. Agency doing inspection and grading (by lab. tests?)*	*6. Agency responsible for policing*	*7. Rough estimate of value of products sold annually under these methods*	*8. Remarks*
TISSUE PAPER MANUFACTURERS ASSN.	Yes	Yes	Yes					
SOCIETY OF AUTOMOTIVE ENGINEERS (*Devices and materials for use in the construction and operation of automotive vehicles*)	No	No seal is used. The initials SAE, together with a viscosity number, are used by a large number of manufacturers on the containers of lubricating oils. Alloy steels are also bought and sold on the basis of SAE specification numbers, a system of identifying the actual material in accordance with the specification numbers is being developed.						No complaints of abuse of the listing scheme have been received which have not been the result of a legitimate error. This is largely due to close check which competitors keep on one another's products.
TIRE AND RIM ASSN.	Rims are inspected by Association inspectors in all United States and Canadian factories to insure compliance with Association standards.					The Association	Annual average over 20,000,000 rims	
BETTER BEDDING ALLIANCE OF AMERICA (*Mattresses and pillows*)	This trade association of manufacturers was instrumental in the passing of laws in 32 states requiring the truthful labeling of the contents of mattresses, etc. Cooperates with and encourages state inspection to check the violations and prosecute therefor when provable.							
NATIONAL TENT AND AWNING MANUFACTURERS ASSN.								The Association has decided upon a program of certification and labeling on the plan of the Bureau of Standards, to become effective January 1, 1932, and based upon Commercial Standard 28-32, Cotton Fabrics, Tents, Tarpaulins, and Covers.
THE NATIONAL PAPER TRADE ASSN. (*Paper bags, tissue, toilet paper, paper napkins, gummed kraft tape, and twine*)								The Association states "from our point of view as merchant distributors of paper and paper products, the standardization and simplification programs apply to our purchases rather than to our sales." They request manufacturers supplying them to furnish a label indicating that the merchandise complies with Simplified Practice Recommendations 42, 44, 46, 92, 110, and 114.
NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS (*Steam boilers and other pressure vessels*)	Each boiler and vessel inspected and marked to show compliance with A.S.M.E. Boiler Code and data certificate issued. National Board publishes list of authorized manufacturers.				State, city, or licensed insurance inspectors	State and city authorities with cooperation of board	Total number of boilers inspected as follows: 1928...18,053 1929...20,164 1930...14,144	National Board consists of chief inspectors of states and cities. The manufacturer has only to "deal with one inspector, one stamp and one code." "We have been successful in securing the support of all interested parties and, from reports we have, every one seems to be very well satisfied."
PAPERBOARD INDUSTRIES ASSN. (*Corrugated paper and solid fiber boxes*)	No	Labels (specifications of Railroad Classification Commission)	Yes	Association distributes its membership list in connection with label services.	Check inspection by Railroad Inspection Bureau	Consolidated Classification Committee and Railroad Ins. Bureaus	"Several million dollars"	"It is believed that there is a certain intangible value incident to the use the Association insignia by an individual box maker."

fiber boxes)		Classification Commission)		ship list in connection with label services.	spection Bureau	Committee and Railroad Ins. Bureaus		Association insignia by an individual box maker."

THE U. S. STEAMBOAT INSPECTION SERVICE	Yes—of such articles as lifeboats, fire extinguishers, etc.	Nameplate showing name of manufacturer, initials of inspector, and "U.S.I."		The Service publishes a list of manufacturers of approved equipment.	The Service; decisions based on Government inspections and tests only	The Service		Work done under mandatory Federal law which provides penalties.
UNIVERSITY OF NEBRASKA (Tractor Law) (*Liquid fuel tractors*)	Yes	University tests hp and rating and compares other performance with manufacturers' published claims; certifies results to State Railway Commission. Sale of tractors not complying is illegal in state.			Tests by University			The University states that work has wide influence. "This world-wide service is probably of greater value than the regulatory features, which apply only in this state.... Manufacturers have cooperated nearly 100%. Very few complaints filed."
KRAFT INSTITUTE (PAPER BAG MANUFACTURERS INSTITUTE)		Yes		A list of member manufacturers who supply bags in accordance with SPR 42, published by the Paper Bag Mfrs. Institute.	The manufacturer	The Institute	$40,000,000 annually	"Abuses are invariably promptly corrected as we believe that we have reached the point where there are not now any more intentional violations..... Inasmuch as we have had good success in putting these standards into effect, it would seem our methods are proper as well as effective."
NATIONAL BUREAU OF CASUALTY & SURETY UNDERWRITERS (*Elevator interlocking devices and gate contacts*)	Yes	No	No	Lists of approved Elevator Interlocking Devices are published.	Underwriters' Laboratories and Bureau of Standards or other recognized laboratory			The work is based on the American Standard Safety Code for Elevators.
UNDERWRITERS' LABORATORIES (*Devices and materials with relation to fire and casualty hazards*)	Yes	Labels; grading in some cases	Yes	Issues lists of approved products.	Laboratory tests and factory inspection	Underwriters' Labs.		
NATIONAL ASSOCIATION OF FINISHERS OF COTTON FABRICS (*Color fastness of dyed cotton fabrics*)	Member companies whose products are found on test to comply with Association standards are authorized to use "Nafal" label.				Commercial laboratory retained to do testing prior to issuance of labels.	The Association		
BUREAU OF STANDARDS (*Wide variety of products covered by commercial standards and federal specs.*)	Stimulates manufacturers to certify products as complying with specifications and to label the products to indicate compliance.			Issues list of manufacturers willing to certify in accordance with Federal Specifications and Commercial Standards.	Inspection and policing left entirely to industry, the Bureau assuming no responsibility			The Bureau has applied its "certification plan" to 335 Federal Specifications and to 21 Commercial Standards. The "Willing-to certify "lists for these, which contain names of 5789 firms which appear in 13,948 separate listings, are distributed widely to governmental purchasing agencies and are sent to industry and the public upon request.
BROOM INSTITUTE (*Household and industrial corn brooms*)	Each broom bears a grade mark and guarantee seal of the National Standards Council, certifying compliance with Institute specifications.				The manufacturer	The National Standards Council		The National Standards Council licenses manufacturers to use its labels; the Council has not yet announced its inspection facilities or laboratory connections.

Report of the Committee on Certification and Labeling

The following is a preliminary report presented by the Committee on Certification and Labeling of the Board of Directors of the American Standards Association:

The Committee on Certification and Labeling have met and formulated a preliminary report which it presented to the Board of Directors.

The Committee and the Board were both of the opinion that the subject is an important and far-reaching one, which will require further study on the part both of the Committee and the Board. The following are the points which were presented to the Board, and discussed by it:

1. Any program of certification, labeling or grade marking, in order to be adequate, should be based upon specifications which are publicly available and nationally recognized.

2. It is for the group or groups substantially concerned with the specifications to decide whether there is to be certification or labeling; and the ASA itself cannot directly take any primary responsibility in respect to such activities.

3. Any certification or labeling program should be effectively supervised by a properly qualified body; *e.g.*, a trade association, or a testing laboratory, operating under proper administrative management.

4. It is suggested to the Member-Bodies that they make a study to determine to what extent certification and labeling would be advantageous or disadvantageous to their work.

5. It is suggested that the Board of Directors discuss whether the ASA or the staff should promote such activities among Member-Bodies.

Several months ago the Committee requested the staff to undertake a survey of the work being done on the subject by industrial and technical groups. This has been carried out by the staff in the form of a memorandum and tables covering work on the subject by about 60 organizations and groups. The memorandum and tables present only factual data in condensed form, without attempting any critical analysis or evaluation.

This preliminary report was received by the Board, it being understood that the report, together with the data collected by the staff, should be circulated to the members of the Board and to the Member-Bodies.

G. K. Burgess
C. L. Collens
F. E. Moskovics
Howard Coonley, *Chairman*
Committee on Certification and Labeling.

Cincinnati Societies Develop Standard Building Specifications

As a result of the meeting of the Joint Conference Committee of the Cincinnati Chapter of the American Institute of Architects and the Allied Construction Industries of Cincinnati held in July, at which all members of the committee expressed the opinion that the development and use of standard specifications would be beneficial to architects, general contractors, and subcontractors alike, specifications to be used by Cincinnati architects are now being standardized by the Joint Conference Committee.

Twenty-four subcommittees have been appointed to work out standards on the following subjects: demolition; excavating; waterproofing; bituminous and plastic coatings; brick masonry; rubble masonry; mass and reinforced concrete; concrete arches and fireproofing; structural steel; cement finish; furnishing and setting cut stone and granite; interior marble; slate and structural glass; furnishing and setting terra cotta; mail chutes; caulking metal window frames and sash; carpentry; metal furring; lathing and plastering; architectural iron and bronze; roofing and sheet metal work; terrazzo and mosaic; ceramic tile; hollow metal work; metal-covered doors; glass and glazing; painting; window and door screens; weatherstrips.

Subcommittees to prepare specifications for the mechanical trades will be named later.

Japanese Standard for Analyzing Coal

A standard method for analyzing coal was adopted recently by the Japanese Committee for Standardizing the Analysis of Materials. The standard comprises provisions covering methods of sampling, preparation of the analytical sample, technical and elementary analysis for determination of heating value, and includes a form for recording the results. According to a recent article in the *Colliery Guardian*, London, the method can also be applied to coke and lignite. It will be accepted as a national standard in Japan.

A Review of the Activities of ASA during the Year 1931[1]

by

Cloyd M. Chapman,[2] *Chairman*
ASA Standards Council

Important new standards, new standardization projects, and other accomplishments surveyed by chairman of Standards Council

It is incumbent on the chairman of the Council to render a report at the Annual Meeting in which it has been customary to review the activities of the Council and of the headquarters staff for the year.

Among the standards approved by the American Standards Association, during 1931, there are several that are outstanding. The group of eight standards covering specifications and dimensions for the four major species of wood poles brought to completion an important piece of work on which a sectional committee has been engaged for six years, collecting and coordinating a large amount of diversified and somewhat contradictory data and developing the standards on a sound engineering basis. The revision of the American Standard Safety Code for Elevators, Escalators, and Dumbwaiters includes decisions that were made as a result of extensive research work over a period of years on oil buffers and car safeties. In its revised form, it takes cognizance of the advance in engineering technique in the design and operation of this type of equipment. A revision was approved of the first standard that was submitted to our organization for approval—Standard Specifications for Portland Cement and Standard Methods of Testing Cement. As revised, these are now two separate standards where formerly they were combined in one. The Safety Code for Coal Mine Transportation is a constructive contribution to the mining industry. Its adoption and use will help to minimize accidents in mine transportation, lower costs, and increase efficiency by providing added protection for mine workers.

Twenty-seven new national standards affecting almost every important industry in the United States have been completed since January 1, 1930. The list is as follows:

General Methods of Testing Woven Textile Fabrics (L5-1931)

Symbols for Heat and Thermodynamics (Z10c-1931)

Specifications for Refined Wrought-Iron Bars (G12-1931)

Specifications for Wrought-Iron Plates (G13-1931)

Cotton Rubber-Lined Fire Hose (L3-1931)

Cast-Iron Pipe Flanges and Flanged Fittings for Maximum Working Saturated Steam Pressure of 25 lb per sq in. (B16b2-1931)

Specifications for Portland Cement (A1a-1931)

Standard Methods of Testing Cement (A1b-1931)

Dimensions of Northern White Cedar Poles (O5b2-1931)

Dimensions of Western Red Cedar Poles (O5c2-1931)

Dimensions of Chestnut Poles (O5d2-1931)

Dimensions of Southern Pine Poles (O5e2-1931)

Specifications for Northern White Cedar Poles (O5b1-1931)

Specifications for Western Red Cedar Poles (O5c1-1931)

Specifications for Chestnut Poles (O5d1-1931)

Specifications for Southern Pine Poles (O5e1-1931)

Specifications for Zinc-Coated (Galvanized) Sheets (G8b1-1931)

Safety Code for Coal Mine Transportation (M15-1931)

[1] Abstract of an address delivered before the Annual Meeting of the American Standards Association, December 9, 1931.

[2] Consulting engineer, United Engineers and Constructors, Inc., New York, N. Y.

Safety Code for Elevators, Dumbwaiters, and Escalators (A17-1931)

National Electrical Code (C1-1931)

Safety Code for the Installation of Pulverizing Systems for Sugar and Cocoa (Z12b-1931)

Safety Code for the Prevention of Dust Explosions in Starch Factories (Z12c-1931)

Safety Code for the Prevention of Dust Explosions in Terminal Grain Elevators (Z12e-1931)

Safety Code for the Prevention of Dust Explosions in Wood Flour Manufacturing Establishments (Z12g-1931)

Safety Code for the Prevention of Dust Ignitions in Spice Grinding Plants (Z12h-1931)

Safety Code for the Use of Inert Gas for Fire and Explosion Prevention (Z12i-1931)

Drainage of Coal Mines (M6-1931)

Thirteen new national standardization projects affecting mechanical, electrical, mining, iron and steel, and other industries have been started during the past year under American Standards Association procedure, as follows:

Builders' Template Hardware (A46)

Steel Reinforcing Bars (A47)

Sizes of Forms for Concrete Ribbed Floor Construction (A48)

Standardization of Finishes on Machine Surfaces (B46)

Recommendations for the Operation of Transformers (C53)

Constant Current Transformers of the Moving Coil Type (C54)

Standard for Capacitors (C55)

Sixty-Cycle Test Voltage for Standard Bushings for Transformers (C56)

Transformers, Induction Regulators and Reactors (C57)

Specifications for Prepared Bituminous Coal (M26)

Safety Code for the Prevention of Dust Explosions in Wood Flour Manufacturing Establishments (Z12g-1931) (*Approved 1931*)

Safety Code for the Prevention of Dust Ignitions in Spice Grinding Plants (Z12h-1931) (*Also completed in 1931*)

Safety Code for the Use of Inert Gas for Fire and Explosion Prevention (Z12i-1931) (*Also completed in 1931*)

Our Sustaining-Members have found our Information Service exceedingly valuable. Through it they have been able to borrow or purchase foreign standards and information pertaining to the standardization activities of other organizations than our own.

Progress in development of safety code program

It may be worth while to make an appraisal of just where we stand with our safety code program. The past year has given great evidence of its success. The basic reason for formulating the program in 1918 was to obtain some order out of the chaos resulting from the multitudinous regulations which had been put into effect by insurance interests and regulatory bodies. A definite policy has now been established by the insurance groups which will bring the insurance schedules into line with the American Standard safety codes. The program for putting this policy into effect is at present about 90 per cent complete. The action taken in 1930 by the Association of Governmental Labor Officials in Industry, approving and endorsing the recommendations made to that Association by a special committee proposing the use of the American Standard safety codes as the basis of state regulations, has resulted in the development of an intense interest during the past year on the part of individual regulatory bodies in our safety code program. Arrangements have been made for the interchange of information on the development of safety codes and of the results obtained from putting into effect the provisions of these codes in the several states. These few facts show that genuine interest in the American Standard safety code program has been developed among the state regulatory bodies. There now remains the actual application of the codes within the states which, of necessity, must be a gradual process brought about by revisions of existing state codes and a realization of the necessity for developing new codes.

In the mining field, you know that a fairly comprehensive program was outlined some years ago under the direction of the Mining Standardization Correlating Committee, covering explosives, drainage, rock dusting, transportation, and other phases of coal mining operation. The projects on Rock Dusting, the Use of Explosives in Bituminous Coal Mines, and the Safety Rules for Electrical Equipment have had wide distribution for several years and their provisions have become a part of coal-mining practice. In the same way the standards for Wire Rope and Ladders are extensively used. The project on the Classification of Coals has presented problems requiring an enormous amount of research which is

now under way. Another on Coal Mine Cars has recently been initiated, and the project on Coal Mine Tracks, Signals, and Switches is in the process of revision. In the metal-mining field, the recommendations included in our Fire Fighting Equipment project are standard practice with practically all the large companies, and their adoption by smaller units can be confidently expected. In general, progress in the work pertaining to metal mines has been slower than on projects in the coal-mining field, because it has been difficult to enlist the enthusiastic support of engineers in the metal-mining program. This has undoubtedly been partly due to the trying conditions during the last few years, but there are definite signs that this inertia is becoming less pronounced. In general, the coal-mining interests have progressed further in realizing the necessity for standardization, largely because mechanical methods which are more susceptible to standardization are rapidly supplanting hand methods. Then, too, the economic necessity of producing coal more cheaply and the unquestioned desirability of providing greater protection for the health and safety of the worker have emphasized the paramount importance of setting up standard practices that will favorably influence both of these factors.

Let us see what progress has been made with an entirely different type of standard. The eight standards on specifications and dimensions of the four major species of wood poles were approved on June 20, 1931. Prior to publication, a carefully coordinated sales campaign was inaugurated among producers and users of wood poles. In five months' time, nearly 25,000 copies of these standards were sold. (Because these standards are so eminently practical, several companies purchased copies and bound on their own covers, using them as sales promotion material among their customers and prospects.)

The organization, during the past year, of the Electrical Standards Committee foreshadows increased activity in the formulation of electrical standards. This development has also included the merging of the former U. S. National Committee of the IEC with the ESC. It is certain that electrical standardization work will be more satisfactorily handled as a result of these changes in organization. Up to the present time the electrical industry has carried its standardization work further than any other industry, except the automotive.

The American Standards Association has to date approved 25 electrical standards including safety codes, specifications, definitions, methods of test, etc., for devices and materials used in all phases of electrical work. It has been stated that the savings effected by the solution under ASA procedure of the problems involved in either of the two American Standard electrical codes has amounted to more than the entire cost of ASA since it was organized. The Electrical Standards Committee has held two meetings and even this short experience has served to show that the delegation of powers to it by the Standards Council will serve to greatly expedite electrical standardization work. The work of the U. S. National Committee is being much simplified and strengthened by its consolidation with the ESC, since the representatives thereon are now official representatives of their respective organizations and may be depended upon to state correctly the attitude of their organizations. Duplication will be avoided since all advisory committees of the USNC will be sectional committees under ASA procedure. American participation in international electrical negotiations will be much facilitated by making it possible for delegates to conferences abroad to secure the authoritative opinions of American industry through the sectional committees covering each particular phase of electrical work.

Work on standards in the mechanical field

Work in the mechanical field has also shown definite progress even though there are still some projects that should be stimulated and revived to a point where they may be brought to completion. Sectional Committee B5 on Small Tools and Machine Tool Elements has been very active, especially in regard to the draft standard on Rotating Air Cylinders and Adapters, and that on Chucks and Chuck Jaws. Technical committees have been organized as a part of this sectional committee to work on three special subdivisions. The project on Screw Threads for Hose Couplings (Other than Fire Hose) is nearing completion; and a survey is being made under the direction of Sectional Committee B1 to determine the actual extent of use of standard coarse and fine threads. A number of important new projects are under way, including one for Foundry Equipment and Supplies, and another on Vegetable Tanned Leather Belting. A request for a project on standardization of Quality of Surface of Machine Finishes which is now before us comes as the result of the urgent need in recent years for a better basis of measurement and classification of surface finishes, especially in the grinding industry. An international proposal for fits between cylindrical parts, developed under the procedure of the International Standards Association, has been submitted to the Committee on Fits and Gages and touches upon one of the most important problems in the mechanical industry. An international project on grinding

wheels has also been submitted for consideration. The year's work has helped to forward and round into fairly good shape the whole mechanical program so that we can now fairly say that we have a substantial group of standards covering the fundamentals of machine elements, including parts and supplies. While there are many difficulties in the way of bringing to a successful culmination all of the work under the project on Drawings and Drafting Room Practice, nonetheless this is a piece of work which should be pushed consistently because of the great need for standard practice and guides in this important field.

While it may seem out of the range of our interests, nonetheless the appointment of local representatives does bear directly upon the spreading of knowledge about our work and the introduction of standards into practice. Since our last annual meeting, four new local representatives have been appointed to represent ASA in their respective localities. These include Boston, San Francisco, Des Moines, and Los Angeles. In connection with special publicity on important pieces of work, the local representatives have been very helpful in securing special newspaper articles and in distributing advance material. With complete sets of standards available in these cities, it is inevitable that it will help to acquaint more and more people with American Standards.

There is another development that is indicative of an important trend in our work and that is that an increasing number of sponsors have requested us to publish standards. In connection with the latter point, all of us should be interested in knowing that the work of the Committee on Form and Arrangement has progressed to a point where they are submitting a unanimous report for approval after several years of hard work. This is evidence of a distinct forward step on a problem that has not been easy to solve.

What conclusion are we to draw from the facts mentioned here? What does this outline of our activities for the year now drawing to a close suggest to us? First, it is evident that we are making progress. The interest in national standardization is increasing. The greater attention paid to it by the technical, trade, and daily press is both a cause and an effect of this increased interest. Second, our progress ought to suggest to us that the opportunity to help industry in these troublous times through standardization should be availed up to a greater extent than it has been in the past. I am not an advocate of hastily prepared standards, nor too many standards, nor useless or unused standards; but with so much yet to be done the whole standardization movement should advance more rapidly.

Resolution on Death of Lewis T. Robinson

The following resolution on the death of Lewis Taylor Robinson, engineer in charge of the General Engineering Laboratory of the General Electric Company on November 3, 1931, was presented by C. R. Harte, chairman of the Electrical Standards Committee, and was unanimously adopted by rising vote at the Annual Meeting of the American Standards Association which was held on December 9:

WHEREAS, the Electrical Standards Committee of the American Standards Association, at its organization meeting of October 13, 1931, recognized Lewis T. Robinson as its founder-member; and

WHEREAS, its members shared with Dr. Robinson the view that the formation of the Committee was a movement of great promise to the cause of standardization and not alone in electrical affairs; and

WHEREAS, Dr. Robinson passed away suddenly at his home on the evening of November third:

IT IS MOVED that the following Resolutions be spread upon the records of the American Standards Association as the joint action of the Association and its Electrical Standards Committee:

Resolved, That in the death on November 3, 1931, of Dr. Lewis T. Robinson, engineer in charge, General Engineering Laboratory of the General Electric Company, a representative in the Standards Council and in the Electrical Standards Committee of the American Institute of Electrical Engineers, the American Standards Association has suffered the loss of a wise and experienced counselor, one whose accomplishments in standardization have assisted materially in furthering the Association's objects. Dr. Robinson was indeed generous in devoting to the affairs of the American Standards Association, in addition to distinguished professional ability, those personal talents of wide vision and of patient and skillful diplomacy through which diverging views were brought into harmonious agreement. The organization of the Electrical Standards Committee and the merger with it of the United States National Committee of the International Electrotechnical Commission is but one, although an outstanding, example of his contributions.

Be it also Resolved, That copies of these Resolutions and their Preamble be sent to Dr. Robinson's family, to the American Institute of Electrical Engineers, and to the General Electric Company.

Officers Re-elected at Annual Meeting of American Standards Association

Bancroft Gherardi, vice-president of the American Telephone and Telegraph Company, was re-elected as president of the American Standards Association for the year 1932 at the Annual Meeting of the Association held in New York on December 9.

Other officers, also re-elected, are: Cloyd M. Chapman, consulting engineer, United Engineers and Constructors, Inc., New York, vice-president of the American Standards Association and chairman of the ASA Standards Council, and John C. Parker, Brooklyn Edison Company, vice-chairman of the Standards Council.

Developments in national and international standardization work were reported at the meeting by both Mr. Gherardi and Mr. Chapman,[1] who reviewed the progress of industrial standardization during 1931.

Five ASA Member-Bodies were selected at the meeting of the Board of Directors, which was held in conjunction with the Annual Meeting, to make nominations for new members of the Board of Directors. This action was authorized in amendments to the ASA Constitution adopted on July 10, 1931, which increased the number of members of the Board of Directors from nine to fifteen. A sixth Member-Body to complete the list is still to be elected. The five Member-Bodies who will make nominations for the new Board members are:

American Institute of Architects
National Machine Tool Builders Association
American Electric Railway Association
Cast Iron Pipe Research Association
Fire Protection Group

The members of the ASA Committee on Finance were reappointed by the Board at the same meeting. The members are:

R. J. Sullivan, vice-president, Travelers Insurance Company, Hartford, Conn., *chairman*
Quincy Bent, vice-president, Bethlehem Steel Company, Bethlehem, Pa.
W. J. Serrill, United Gas Improvement Company, Philadelphia, Pa.

The Board also reappointed the members on the ASA Committee on Representation, as follows:

G. L. Markland, Jr., Philadelphia Gear Works, Philadelphia, Pa., *chairman*
H. L. Huber, American Telephone and Telegraph Company, New York, N. Y.
W. J. Serrill, United Gas Improvement Company, Philadelphia, Pa.

A. A. Stevenson, Ardmore, Pennsylvania, was reappointed by the Board to represent the American Standards Association on the Planning Committee of the Division of Simplified Practice. It was announced at the meetng that Mr. Stevenson has recently been elected chairman of the Committee.

[1] An abstract of Mr. Chapman's report is published on page 25.

Standards Council requests study of meeting dates

At its meeting on December 9, the Standards Council considered a request of the Electrical Standards Committee that the ASA look into the possibility of a more systematic arrangement of the dates of committee meetings with those of various trade and technical organizations involved in ASA work, and it was voted that the ASA staff be requested to make a study of meeting dates of organizations, and that the chair be authorized to appoint a special committee to make recommendations in regard to the material prepared by the ASA staff.

After considering action on ASA projects, the Standards Council ordered the following proposed standards to letter ballot:

Steel Reinforcing Bars (A47)
Symbols for Mechanics, Structural Engineering and Testing Materials (Z10a)
Code for Testing Domestic Refrigerators Using Ice (B38c1)

New A.I.A. Representative

F. Leo Smith, recently appointed technical secretary of the Structural Service Department, American Institute of Architects, Washington, D. C., has replaced the former secretary, LeRoy E. Kern, as representative of the American Institute of Architects on the sectional committees of the American Standards Association.

Joint Meeting of USNC and ESC Elects Officers and Acts on Projects

A meeting of the Electrical Standards Committee and the United States National Committee of the International Electrotechnical Commission was held on December 1. The meeting was the last to be held by the old USNC and the first to be held by the new Committee, as constituted in the recently approved Constitution of the ESC. The new USNC committee consists of the members of the Electrical Standards Committee, nine members-at-large, and three representatives of the American Society of Mechanical Engineers.

At the meeting Dr. Clayton H. Sharpe, who has for several years been president of the USNC, was unanimously re-elected president; Charles Rufus Harte, chairman of the ESC, was elected vice-president; and Dr. H. S. Osborne, who for several years had been secretary of the Electrical Advisory Committee, was elected secretary.

The following were appointed members of the Executive Council of the USNC:

H. P. Charlesworth, Bell Telephone Laboratories, New York, representing the American Institute of Electrical Engineers

L. F. Adams, General Electrical Company, Schenectady, representing the National Electrical Manufacturers Association

L. L. Elden, Edison Electric Illuminating Company, Boston, representing the Electric Light and Power Group

H. N. Davis, Stevens Institute of Technology, Hoboken, member-at-large

C. E. Skinner, Westinghouse Electric and Manufacturing Company, East Pittsburgh, member-at-large

Sidney Withington, New York, New Haven and Hartford Railroad Company, New Haven, member-at-large

C. H. Sharpe, Electrical Testing Laboratories, New York, chairman of the USNC, *ex officio* member

H. S. Osborne, American Telephone and Telegraph Company, New York, secretary of the USNC, *ex officio* member

Provision was made by the USNC for the appointment of a committee on reorganization of work. This committee will assign the work of the USNC to existing sectional committees, whenever this is possible, and in other cases will organize new sectional committees to take care of the work.

A proposal received from abroad in regard to the question of standards for shellac for electrical purposes was referred to the Electrical Standards Committee.

Committee acts on ASA projects

The Electrical Standards Committee, at its meeting, took action on the following ASA projects:

A recommendation for approval by the ASA Standards Council of the recommended practice for operations of transformers (C53–A.I.E.E. No. 100) as American Recommended Practice was voted by the ESC. The Committee also voted to recommend that the title of the project be changed to "Recommended Practice in the Temperature Operation of Transformers." These recommendations were acted upon at the meeting of the Standards Council on December 9 and were ordered to letter ballot of the Council.

The proposed standards for constant current transformers of the moving coil type (C54–A.I.E.E. No. 12) and the standards for capacitors (C55–A.I.E.E. No. 18) were referred back to the American Institute of Electrical Engineers, the former for further consideration of the appendix and the latter for the incorporation of revisions which have come up since the document was submitted to the ESC.

A proposal concerning formulation of standard 60-cycle test voltages for standard bushings for transformers (C56) which had been submitted by the A.I.E.E. to the ESC, was considered by the ESC and it was decided to refer the suggestion to the joint committee on Systems Insulation of the N.E.L.A. and N.E.M.A., since the proposal comprises a detail of the broad question under consideration by the joint committee.

The ESC decided to organize a sectional committee and to assume the sponsorship for a project on transformers (C57), with the following scope:

"Transformers (exclusive of instrument transformers, auto transformers, used as part of auto starters, rectifiers, special

testing, series street lighting, sign lighting, ignition, and communication transformers, all small transformers used for special purposes and constant current transformers); voltage regulators, of the induction or transformer type."

This sectional committee will have charge of an exceedingly important group of standards for transformers and will also act in the capacity of advisor to the USNC in international matters covered by the scope.

The ESC decided to recommend to the Standards Council that sponsorship for the project on wires and cables (C8) be assigned to it. Subsequently, the Standards Council, at its meeting of December 9, concurred with this recommendation and assigned sponsorship to the ESC, contingent upon the assent of the majority of its present sponsors. This step is considered to be an extremely constructive one, since sponsorship difficulties have caused much delay in the work of this committee.

The proposed Tentative American Standards for mercury arc rectifiers (C34) which have been submitted by the sponsors, the American Institute of Electrical Engineers, were referred to the committee on scope of the ESC for its recommendations on approval.

New members of USNC

In addition to the action taken by the ESC on projects, it was decided to invite the following individuals to become members of the reorganized United States National Committee of the International Electrotechnical Commission as provided for in Section 15—III of the Constitution of the ESC:

James Burke, chairman of the Board, Burke Electric Company, Erie, Pa.

W. F. Durand, professor of mechanical engineering, Stanford University

A. E. Kennelly, professor emeritus of electrical engineering, Harvard University

C. O. Mailloux, consulting engineer, New York

I. E. Moultrop, chief engineer, Edison Electric Illuminating Company, Boston

H. S. Osborne, transmission engineer, American Telephone and Telegraph Company, New York

Harold Pender, dean, Moore School of Electrical Engineering, University of Pennsylvania

C. H. Sharpe, vice-president, Electrical Testing Laboratories, New York

C. E. Skinner, director of engineering, Westinghouse Electric and Manufacturing Company, East Pittsburgh

Alexander Maxwell, S. L. Nicholson, and A. R. Small were appointed as a nominating committee to select a candidate for the vacancy on the Executive Committee of the ESC caused by the death of Dr. L. T. Robinson. Notice has been received from the American Institute of Electrical Engineers of the appointment of A. M. McCutcheon, engineering vice-president, Reliance Engineering and Electric Company, Cleveland, Ohio, as the representative of the A.I.E.E. to fill the vacancy on the ESC.

A.S.T.M. Publishes Papers on Specifications

The American Society for Testing Materials has recently issued a booklet entitled *The Economic Significance of Specifications for Materials* containing the six following papers:

Value of Specifications in the Manufacture of Steel—John Brunner

The Economic Significance of Specifications for Materials from the Standpoint of a User of Steel—P. Parke

The Economic Significance of Specifications for Materials from the Point of View of a Producer of Concrete—J. P. H. Perry

The Use of Specifications for Concrete from the Point of View of the Consumer—Arthur R. Lord

Specifications from the Standpoint of a Large Purchaser of Engineering and Special Materials—J. W. Bancker

Discussion on Motor Oils—H. C. Mougey

These papers were read at the joint meeting of the American Society for Testing Materials and the Western Society of Engineers held in Chicago on June 25, 1931. The paper on "The Economic Significance of Specifications for Materials from the Standpoint of a User of Steel" by P. Parke was reprinted in the September issue of the ASA BULLETIN.

The engineering and purchasing departments of many industrial concerns will undoubtedly be particularly interested in the paper by J. W. Bancker, "Specifications from the Standpoint of a Large Purchaser of Engineering and Special Materials." Mr. Bancker is vice-president of the Western Electric Company, New York.

Copies of the booklet containing all of these papers may be obtained from the American Society for Testing Materials, 1315 Spruce Street, Philadelphia, Pa., or through ASA.

The Industrial Standardization Program of Soviet Russia for the Year 1932[1]

by

R. Dubravskaya

The Sixteenth Convention of the Communist Party has emphasized in its resolutions the necessity of speeding up construction by standardization and timely planning. This fact makes it clear that socialistic standardization is one of the most important levers in the reconstruction of the national economy in the fourth and last year of the "pyatiletka" (Five Year Plan).

In approving the policies which are to guide the drafting of the standardization plan for 1932, the All-Russia Committee, which is in charge of the engineering policies of socialistic standardization, has set before itself the aim of a complete 100 per cent coverage of the products of the leading branches of the national economy —a maximum of control by standardization of all industrial and agricultural production.

In its statement of policy the committee also asserts that the adoption of standards will improve the quality of production, will promote specialization and cooperation in production, and will also facilitate the introduction of the latest technical improvements.

Again there is an insistence on elimination of waste, rational substitution of materials, coordination of technological processes, etc.

Further, this statement of general policies outlines standardization work to be undertaken, in 1932, in several of the most important divisions of industry, transportation, agriculture, and homecrafts. An outline of the general policies follows:

(*a*). In the power industries, the plan is to secure complete standardization in the generation of electric power in all its details: there must be standardization of boilers and high-pressure turbines, furnaces for the combustion of various fuels of local origin, etc. The construction of more powerful prime movers and the use of Diesel engines in the powering of tractors and aircraft must also be considered.

(*b*). In the division of machine construction, greater attention should be paid to the proper selection of types of machinery, including imported machines. Machine construction should be standardized in greater detail; and special attention should be paid to the construction of machinery for agricultural uses and for the chemical and transportation industries. Furthermore, simplification will tend to eliminate the excessive variety now prevalent in these industries.

(*c*). There should be standardization of technological processes practiced under similar conditions of manufacture; standardization of raw materials and of semi-finished products; and standardization of the rules of production, management, and control.

(*d*). It is planned to insure definite progress in the standardization of tool-making. Quality standardization of the products of ferrous metallurgy is to be completed; and the standardization of high-grade steels, alloys, and metallization of wood is to be speeded up.

(*e*). Standardization of all types of building construction, including houses and industrial and institutional buildings, is planned; as well as standardization of mechanical construction equipment.

(*f*). In agriculture, standardization is to be applied to the rotation of crops and to specialization of farming. A special section of the plan takes up the problems of animal husbandry, cattle feeds and rations, silos, etc.

(*g*). In transportation, the plan includes standardization of locomotives, both steam and electric, railroad cars, etc.; adoption of uniform nomenclature of parts and details of cars and locomotives; standardization of materials used in the transportation industry, as well as of railroad maintenance and repair work; standardization of loading and unloading equipment; and of terminal facilities. The 1932 program of standardization is also to bring to the fore the problems connected with railroad electrification and railless transportation.

Other standardization problems

The 1932 program is to extend standardization into communal activities, social-cultural construction, socialized food supply and feeding,

[1] Condensed translation, by I. Gutmann, associate editor, *Engineering Index*, New York, of an article published in *Vestnik Standartizatziyi*, June, 1931, pp. 6–8.

improvement of working conditions (safety engineering standards, standards of working conditions, for prevention of fatigue, etc.).

Paralleling the standardization program of 1932, a plan of research should be developed for the purpose of the selection of problems of actual timely import in connection with the reconstruction of the Socialist economic structure.

A list of such selected problems should also include the following: broad-gage versus narrow-gage railroad tracks; German versus American designs of agricultural equipment; crude oil versus gasoline tractors; the establishment of the most rational types of equipment, and scientific specifications for them, also of the most appropriate production methods; development of conditions necessary for the introduction of continuous mass production; improvement of the quality of products; elimination of materials, supplies of which are inadequate; promulgation of uniform methods for the testing and analysis required in the appraisal of types and manufacturing processes; establishment of objective indexes to take the place of subjective ones.

A detailed analysis of standardization plans as here outlined will require the immediate cooperation of all scientific and research institutions and their most active workers, as well as of factory laboratories, agricultural experimental stations, etc.

The 1932 standardization plan must also have a regional aspect, particularly in the fields of agricultural production and construction. The standardization committees of the individual republics of the Union must be charged with the regional aspects of the plan, involving the creation of temporary standards as provided by law, paying special attention to home-craft industries.

The standardization program of 1932 will be handicapped principally through the absence of a staff of suitably trained organizers of standardization work. The plan, therefore, must provide for the training of standardization workers.

All standards heretofore published must be analyzed and revised in the light of the recommendations just made. In this work of planning and revising, we must secure the cooperation of large working groups, production councils, organizations of inventors, wall-newspaper staffs, etc.

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Foreign Standards Available through ASA

Beginning with this issue, the list of new foreign standards and specifications which are available to Sustaining-Members for loan or purchase through the office of the American Standards Association will be published each month in the ASA BULLETIN. This list will supersede the post card formerly mailed to Sustaining-Members. It will be necessary in requesting copies of the standards to list only the ASA serial numbers preceding the titles.

The ASA office is always glad to place at the disposal of Sustaining-Members any of the foreign standards on file. This collection of over 10,000 standards contains valuable data on many subjects, such, for example, as road materials, electrical machinery, lubricants, testing materials, drawings, and piping. Titles of foreign standards (when not in English) are translated to assist users.

ASA serial number

Austria

1. Colophony
2. Concrete reinforcing round steel diameters
3. Electrical machinery, elevation of axis
4. Highway bridges; principles of design of steel supporting structure
5. Mechanical testing of materials, ball pressure test, according to Brinell
6. Mechanical testing of materials, bending strength test
7. Mechanical testing of materials, compression test
8. Mechanical testing of materials, tensile test
9. Operating voltages and number of cycles of electrical installations (excepting electric railway systems)
10. Rosin size for paper sizing
11. Technical specifications for structural work, concrete and reinforced work
12. White limestone (air slaked lime) for building purposes

Czechoslovakia

13. Fittings (pipe)
14. Flanges (pipe)
15. Nickel

Denmark

16. Bolt holes, 1/4 inch to 4 inches and 1 to 80 mm
17. Bright round washers, 1/4 inch to 6 inches and 6 to 80 mm
18. Castellated nuts, 1/4 inch to 6 inches and 6 to 80 mm
19. Forks for hospitals
20. Hexagon nuts 1/4 inch to 6 inches and 6 to 80 mm
21. Hinges for cupboards
22. Hinges for doors and windows
23. Hinges for inside windows

ASA PROJECTS

A Review of Electrical Engineering Projects under ASA Procedure

The third of a series of reviews of standardization projects under the procedure of the American Standards Association

The status of all electrical engineering projects under ASA procedure is summarized in the following review. The data presented are taken from the files of the American Standards Association and are corrected to January 1, 1932, bringing up-to-date the review of electrical engineering projects published in the November, 1930, issue of the ASA BULLETIN. The personnel of the sectional committees handling the projects may be found by reference to the project section of the 1931 American Standards Association *Year Book* (pages 48–57).

C1-1931—Regulations for Electric Wiring and Apparatus in Relation to Fire Hazard ("National Electrical Code")

Sponsor—National Fire Protection Association.

Chairman—A. R. Small, vice-president, Underwriters' Laboratories, New York, N. Y.

Scope—Requirements for the installation of electric wiring and equipment for light, heat, and power, as they affect the fire hazard, and for signaling systems, so far as they may involve such hazard. The code also includes requirements affecting the life hazard in numerous applications and uses.

This code undergoes periodic revisions. The edition at present in force, known as the 1931 edition, was approved as an American Standard on August 18, 1931.

The personnel of the sectional committee for the 1931 edition was approved by the Standards Council at its meeting on June 12, 1930. Since that time the Standards Council, upon recommendation of the Electrical Advisory Committee, has accorded representation on the sectional committee to the International Association of Industrial Accident Boards and Commissions. This same committee is at present at work on the next edition of the code.

The plan covering desirable changes in uncontroversial matters in the code which was inaugurated in 1930 continues in effect. By means of this procedure it is possible to effect changes in the code and to recognize new applications of idea in the installation of wiring and apparatus without the delays necessarily involved in the usual biannual publication. Changes made in the code under this procedure are incorporated in the next succeeding revision.

C2-1927—National Electrical Safety Code

Sponsor—National Bureau of Standards.

Chairman—M. G. Lloyd, Bureau of Standards, Washington, D. C.

Secretary—Arthur Halsted, Bureau of Standards, Washington, D. C.

Scope—Protective grounding of circuits and equipments; installation of machinery, switchboards, etc., in generating stations and substations; installation and maintenance of electrical wiring and utilization apparatus, and of supply and signal lines, both overhead and underground, and the operation of electric lines and equipment—all from the point of view of casualty hazards.

This code was first approved as an American Standard in 1922. The present edition was given the status of American Standard in 1927. The work of developing this last edition of the code was done by two sectional committees—the first developed Parts I and III, covering interior work and grounding, and the second developed Parts II and IV, covering line construction, operating rules, and so forth.

Several organizations having a major interest in this code are doing extensive fundamental research work relating chiefly to strength of lines and loading, looking forward to the preparation of the next edition of the code. It is felt by these interests that when the research is completed a new edition of the code will be possible which will be fundamentally more sound and at the same time more satisfactory to all interested in the use of the code.

The complete code is published by the Bureau of Standards and is designated as Handbook No. 3 of the Bureau. In addition to the complete edition, the various parts are available as separate pamphlets.

C3—Electrical Fire and Safety Code

A combined Electrical Fire and Safety Code was proposed in the original group of safety codes recommended by the Safety Code Correlating Committee in 1920. Sponsorship was assigned jointly to the National Fire Protection Association and the National Bureau of Standards on April 3, 1920.

On July 8, 1920, the Electrical Manufacturers Council (one of the predecessor organizations of the National Electrical Manufacturers Association) proposed that the project be dropped. On March 29, 1922, the N.F.P.A. asked to be relieved of sponsorship. On June 15, 1922, a general formal conference was authorized to discuss the whole subject and establish a policy. Two informal conferences were held and on March 17, 1925, a report was rendered which recommended that a formal conference should consider four possible alternatives. This report was officially received by the main committee of the A.E.S.C.

Such a formal conference was never held and the subject still remains on the ASA books, no disposition of the matter having been made.

C5-1929—Code for Protection against Lightning

Sponsors—American Institute of Electrical Engineers; National Bureau of Standards.

Chairman—M. G. Lloyd, Bureau of Standards, Washington, D. C.

Secretary—O. S. Peters, Washington, D. C.

Scope—Protection of buildings (including powder magazines), oil tanks, gas holders, smoke stacks, trees, airships, live stock, and persons against lightning.

This code comprises five parts.

Part I—Protection of Persons, Part II—Protection of Buildings and Miscellaneous Property, and Part III—Protection of Structures Containing Inflammable Liquids and Gases were approved by ASA in April, 1929. Parts I and II were approved as American Standards and Part III as American Tentative Standard. Parts IV and V—Protection of Electrical Circuits and Equipment against Lightning were printed by the Bureau of Standards as a preliminary report of the sectional committee, under the title of "Protection of Electrical Circuits and Equipment against Lightning," in September, 1929, for the purpose of eliciting criticism and suggestions. It is expected that the question of approval of these parts will be taken up after the relapse of a reasonable trial period.

C6-1925—Terminal Markings for Electrical Apparatus

Sponsor—National Electrical Manufacturers Association.

Chairman—L. F. Adams, General Electric Company, Schenectady, N. Y.

Secretary—H. D. James, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.

Scope—A system of connections and of markings for terminals for electrical equipment, including generators, motors, converters, transformers, and power control apparatus, together with the auxiliaries ordinarily furnished with such apparatus.

This standard was approved as an American Standard on April 28, 1925. This work was formerly under the sponsorship of the Electric Power Club, one of the predecessor organizations of the N.E.M.A. At the present time work is being done on a revision of the standard. The question of terminal markings is of considerable international importance, and the sectional committee participates in international work through the medium of the International Electrotechnical Commission. The last meeting of the committee was held on June 6, 1930, at which time there was a thorough discussion of the questions involved in the proposed revision, which includes some proposed additional material.

C8—Insulated Wires and Cables (Other than Telephone and Telegraph)

Sponsors—American Electric Railway Association; American Institute of Electrical Engineers; American Railway Engineering Association; American Society for Testing Materials; Association of Edison Illuminating Companies; Association of Railway Electrical Engineers; National Board of Fire Underwriters; National Electric Light Association; National Electrical Manufacturers Association; National Fire Protection Association.

Chairman—W. A. DelMar, Habirshaw Electric Cable Company, Yonkers, N. Y.

Secretary—F. J. White, Okonite Company, New York, N. Y.

Scope—Specifications for insulated wires and cables for other than telephone and telegraph use, including: stranding and sizes of conductors; rubber, varnished cloth, impregnated paper, enamel, cotton, and silk insulation; fibrous covering, including asbestos; sheaths, armour; make-ups.

The sectional committee's work has resulted in the approval of the following specifications by ASA:

Tinned Soft or Annealed Copper Wire for Rubber Insulation (C8b1-1928)—approved as American Standard June 12, 1928

Soft or Annealed Copper Wire (C8b2-1928)—approved as American Standard June 12, 1928.

Thirty Per Cent Rubber Insulation for Wire and Cable for General Purposes (C8d1-

1928)—approved as American Tentative Standard April 2, 1928

Cotton Covered Round Copper Magnet Wire (C8j1-1928)—approved as American Tentative Standard April 2, 1928

Silk Covered Round Copper Magnet Wire (C8j2-1928)—approved as American Tentative Standard April 2, 1928

Enameled Round Copper Magnet Wire (C8j3-1928)—approved American Tentative Standard April 2, 1928.

The following specifications, after a period of circulation for criticism and comment, were submitted by the sectional committee for the approval of the sponsors under date of October 22, 1930:

"Code" Rubber Insulation (C8d2)

Weatherproof (Weather-Resisting) Wires and Cables (C8k1)

Heat-Resisting Wires and Cables (C8k2)

To date eight of the ten sponsors have approved the first of these and nine of the ten sponsors have approved the last two.

Definitions and General Standards for Wires and Cables (C8a), after letter ballot of the sectional committee, were submitted to the sponsors by the sectional committee in October, 1931.

The personnel of the sectional committee was submitted to the Electrical Standards Committee for reapproval on account of changes which had taken place in the personnel. The ESC, however, felt that the set-up of the committee was too complex and that much confusion had resulted from the multiple sponsorship. It therefore recommended to the Standards Council that sponsorship be vested in the ESC. At its meeting of December 9 the Council concurred with the recommendation of the ESC and assigned sponsorship to the ESC provided that such action would be agreeable to the majority of the present sponsors. The sponsors are at present being communicated with in respect to their formal opinion in the matter.

C10-1924—Symbols for Electrical Equipment of Buildings

Sponsors—American Institute of Electrical Engineers; American Institute of Architects; Association of Electragists, International.

Chairman—C. Kaiser, consulting engineer, Kaiser, Muller, and Davies, New York, N. Y.

Secretary—L. W. Davis, general manager, Association of Electragists, International, New York, N. Y.

Scope—The standardization of symbols used by architects. engineers. and electrical contractors for designating the various electric wiring outlets installed for the purpose of attaching appliances for lighting, motor service, calling, and signaling in buildings.

These symbols were approved as American Tentative Standard on March 6, 1924. A revision is about to be undertaken at the present time in order to bring them up-to-date, all of the sponsors having agreed as to the desirability of a revision.

C11-1927—Physical and Electrical Constants for Hard-Drawn Aluminum Conductors

Sponsor—American Institute of Electrical Engineers.

Chairman—Theodore Varney, electrical engineer, Aluminium, Ltd., New York, N. Y.

Scope—Electrical and related properties of hard-drawn aluminum conductors.

This standard was approved as an American Standard on May 2, 1927.

The subject of constants of hard-drawn aluminum conductors has important international aspects, and this sectional committee participates in international work through the International Electrotechnical Commission. Much of the international discussion has arisen on account of the fact that aluminum, in order to meet the requirements of this standard, must be of a higher degree of purity than that ordinarily used in foreign countries, and the committee has worked with the aim of reconciling the viewpoints of the different countries.

C12-1928—Code for Electricity Meters

Sponsors—National Bureau of Standards; National Electric Light Association; Association of Edison Illuminating Companies.

Chairman—J. Franklin Meyer, Bureau of Standards, Washington, D. C.

Secretary—H. Koenig, engineer-in-charge, electrical laboratory, Electrical Testing Laboratories, New York, N. Y.

Scope—Standards of practice for the maintenance and accuracy of watthour meters, demand devices, and auxiliary apparatus. Summary of good practice for the installing of meters and auxiliaries. Definitions of units and technical terms relating to watthour meters.

This code was approved as an American Standard on February 20, 1928. The present is the third edition of the code, the second edition having been approved by ASA in 1922.

This code may be considered the fundamental authority on all matters relating to watthour meters and demand meters. It covers definitions, standards, specifications for the acceptance of types of watthour meters, and auxiliary

apparatus for use with such meters, installation methods, test methods, laboratory and service tests for watthour meters, as well as similar information relative to demand meters.

The code has been used as a basis for proposals made through the United States National Committee of the International Electrotechnical Commission for international standardization of watthour meters.

It has recently been suggested that a revision of the code be undertaken in view of discrepancies between it and the Recommended Practice of the IEC. The question is, however, still in the hands of the sponsors awaiting their decision.

C13-1926—Specifications for Tubular Steel Poles

Sponsor—American Electric Railway Association.

Chairman—Ralph H. Rice, principal assistant engineer, Board of Supervising Engineers, Chicago, Ill.

Scope—Specifications covering method of manufacture, selection of materials, dimensions and weights and their tolerances, inspection and testing, for tubular steel poles used in electric line construction.

These specifications were approved as American Tentative Standard on October 14, 1926.

The importance of this work is easily understood when it is considered that fourteen hundred combinations of tubular steel poles have been shown in a catalogue of a single company, while this specification lists sixteen which are sufficient to meet practically all commercial needs. The specifications contain a simple table of deflections, together with the formula from which they are computed, for use in the selection of poles. The specifications apply to built-up tubular steel poles of three sections.

No revision of these specifications is contemplated at the present time.

C15-1923—600 Volt Direct-Current Overhead Trolley Construction

Sponsor—American Electric Railway Association.

Scope—Design and erection of overhead trolley systems, including the supporting structures and supporting systems, but not the material.

This standard was approved by ASA as an American Tentative Standard on July 30, 1923. In May, 1928, the A.E.R.A. requested, and was later granted, proprietary sponsorship for the project.

The sponsor has advised ASA that a revision of this standard is being undertaken and that it is expected that such revision will be presented to the American Standards Association for action in the near future.

C16—Radio

Sponsors—American Institute of Electrical Engineers; Institute of Radio Engineers.

Chairman—A. N. Goldsmith, Radio Corporation of America, New York, N. Y.

Secretary—Harold P. Westman, Institute of Radio Engineers, New York, N. Y.

Scope—Nomenclature, methods of testing and of rating, specifications of apparatus and equipment, and dimensions to secure interchangeability where this may be found to be desirable.

A request for standardization in the radio field was received from the National Bureau of Standards in December, 1922. The usual conference for discussion of the project was held in January, 1923, and upon the recommendation of the conference, joint sponsorship was assigned to the American Institute of Electrical Engineers and the Institute of Radio Engineers.

The personnel of the sectional committee was submitted to ASA for approval in November, 1928, and the technical details of the committee's work were divided among and carried out by the subcommittees on transmitting and receiving sets and installations; component parts and wiring; vacuum tubes; electro-acoustic devices; power supply; and outside plant.

In July, 1929, a standard covering dimensions and arrangement of terminals on four-prong vacuum tube bases (C16c1) was submitted to ASA and approved as an American Tentative Standard.

In October, 1929, a meeting was held to reorganize the work of the committee, and to apportion the work among the following four new technical committees: Radio Transmitters and Parts; Radio Receivers and Parts; Vacuum Tubes; and Electro-Acoustic Devices. This division of the work before the sectional committee into four groups headed by the four technical committees provided a satisfactory set-up for the establishing of standards on radio matters. During 1930 and the early part of 1931 these four technical committees worked in close cooperation with the similar technical committees of the I.R.E. Committee on Standardization, and during June, 1931, a 44-page pamphlet on *Proposed American Standards on Radio* was forwarded to the members of the Sectional Committee on Radio for ballot vote. The material contained in the *Proposed American Standards on Radio* was based principally on the standards set up by the Institute of Radio Engineers and the Radio Manufacturers Association and contained "Standard Definitions of Terms Used in Radio," "Standard Tests of Broadcast Radio Receivers," "Standard Vacuum Tube Base and Socket Dimensions," and "Manufacturing Standards Applying to Broadcast Receivers."

On November 18, 1931, a meeting of the Sectional Committee on Radio was held. The "Standard Vacuum Tube Base and Socket Dimensions" and "Manufacturing Standards Applying to Broadcast Receivers" were unanimously approved by the committee by letter ballot and this material has been forwarded to the sponsor bodies for their approval. The Institute of Radio Engineers has already approved of this material for adoption as an American Standard and it is expected that these proposed standards will be submitted to ASA for approval in January, 1932.

The "Standard Tests of Broadcast Radio Receivers" were not approved by the sectional committee for adoption as an American Standard, but there were no technical objections to the material proposed and a letter ballot is now being taken in regard to adoption as an American Recommended Practice.

The "Standard Definitions of Terms Used in Radio" were referred back to the four technical committees with the request that they consider the written objections to these definitions, make whatever changes or additions may be necessary, and submit their report to the sectional committee as soon as there is reasonable assurance that the objections raised by the members of the committee have been answered satisfactorily, after which these definitions will be submitted again to the committee for letter ballot.

C17—Miscellaneous Pole Line Materials

Sponsor—Electric Light and Power Group.

Scope—Standardization of anchor rods; crossarm, brace, and other bolts; brackets; braces; guy fittings; pole steps; pins; strand; racks; and such other items of manufacture in the same line of industry as are employed substantially by two or more consuming branches of industry. Investigate possibilities of unification of crossarm dimensions for two or more consuming branches of industry and if this can be secured, standardize wooden crossarms; also pins, brackets, and other wooden pole line materials in use by two or more branches of industry.

Initiation of this project was requested by the American Electric Railway Association in 1923. After a study of the field by an especially appointed committee, sponsorship was finally assigned to, and accepted by the Electric Light and Power Group (National Electric Light Association and Association of Edison Illuminating Companies), this acceptance being approved on June 11, 1925. It was originally proposed that the project be a comprehensive one; at the organization conference, however, the project was subdivided, and later it was further subdivided, due chiefly to the existence of the following projects:

Tubular Steel Poles—C13-1926

600 Volt D-C Overhead Trolley Construction—C15-1923

Insulators for Electric Power Lines—C29

Wood Poles—O5

To date, this project has not gotten under way.

C18-1930—Specifications for Dry Cells and Batteries

Sponsor—National Bureau of Standards.

Chairman—George W. Vinal, Bureau of Standards, Washington, D. C.

Scope—Standardization of dry cells and dry batteries with respect to types, sizes, assemblies, designating system, terminal arrangements markings, methods of test and possibly required minimum performance, including dry cells and batteries for telephone, ignition, flashlight, radio, and other uses.

These specifications were first approved as an American Standard on February 27, 1928. In November, 1928, work was undertaken on a revision of the specification. The work progressed through several drafts and the revised edition was approved as an American Standard on September 9, 1930. The chief changes in the revised edition have to do with the performance requirements, these having been raised in a number of instances.

C19-1928—Industrial (Electrical) Control Apparatus

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Chairman—H. D. James, consulting control engineer, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

Secretary—W. C. Yates, manager, Industrial Control Sales, General Electric Company, Schenectady, N. Y.

Scope—Standards for industrial control apparatus: definitions, service conditions, rating, dielectric strength tests, and temperature and other limitations for industrial control apparatus; for similar control apparatus used for industrial heating; and for rheostats and auto transformers used for starters; but not including marine auxiliary control apparatus, marine propulsion control apparatus, mine locomotive control apparatus, or railway control apparatus.

This standard was approved as an American Standard on April 25, 1928. The material contained in the standard is a revision of a previously existing A.I.E.E. standard.

Up to the present time no new developments have arisen which would indicate the necessity for a revision.

C20—Line Insulators for Voltages Not Exceeding 750

(*See C29.*)

C21-1926—Synchronous Converters

(*See C50.*)

C22-1925—Instrument Transformers

Sponsor—American Institute of Electrical Engineers.

Scope—Definitions, rating, and methods of test for transformers for use with measuring or control devices, including short-circuit and open-circuit limitations, dielectric tests, polarity, and terminal markings.

This standard was submitted as an existing standard by the American Institute of Electrical Engineers on May 22, 1925, and was approved as an American Standard on December 15, 1925. This approval was given with the understanding that a revision would be undertaken under the sectional committee method should any conflicts with other standards arise. To date, however, no need for such a revision has become evident.

C28—Electric Motor Frame Dimensions

Sponsors—National Electrical Manufacturers Association; American Society of Mechanical Engineers.

Chairman—W. F. Dixon, Singer Manufacturing Company, Elizabethport, N. J.

Secretary—L. F. Adams, General Electric Company, Schenectady, N. Y.

Scope—Uniform mounting dimensions for general-purpose motors.

This project was initiated in June, 1924, at the request of the National Machine Tool Builders Association. After having gone through a series of changes in scope (the final scope being as given above), as well as changes in personnel, on February 8, 1930, the proposed standard was formally submitted by the sponsors for approval as an American Standard. Under date of May 22, 1930, the N.E.M.A. withdrew their approval as one of the sponsors, stating that they wished to submit a series of suggestions for a different method of handling the project. Later, upon request of the Standards Council the reasons for this action were set forth by N.E.M.A. in a letter to ASA.

The personnel of the sectional committee was approved by the Standards Council at its meeting on June 12, 1930, upon recommendation of the Electrical Advisory Committee.

At the January 28, 1931, meeting of the sectional committee, the N.E.M.A. representatives stated that this project had been receiving active consideration within N.E.M.A. and that they proposed a new scope for general-purpose motors. The committee decided to proceed as follows:

1. That the committee continue its work.

2. That the following scope, outlined by N.E.M.A. be submitted to the joint sponsors of the sectional committee with recommendations for approval:

(*a*). A series of dimensions for the height between the plane of base and the center line of shaft.

(*b*). The spread at right angles to the center line of the shaft between the bolt holes, definitely correlated to each dimension in Item 1.

(*c*). The distance parallel with the line of the shaft from the center line of the bolt holes next to the driving end of the motor to the shoulder of the shaft, also definitely correlated with each dimension in Item 1.

(*d*). The above standardization stated in Items 1, 2, and 3 to be limited to General-Purpose Motors of sizes from 1 hp, 1750 rpm to 200 hp, 450 rpm, inclusive.

The committee further decided to submit the above recommendations to all of the members of the sectional committee for letter ballot with the statement that those present at the meeting favored approval. To date this ballot has not been taken.

C29—Insulators for Electric Power Lines

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Chairman—J. A. Brundige, engineer, Electric Bond & Share Company, New York, N. Y.

Secretary—Arthur Halsted, associate electrical engineer, National Bureau of Standards, Washington, D. C.

Scope—Specifications, including rating, dimensions for interchangeability and tests, for line insulators of all types except those used for communication lines.

This project is a consolidation of two former projects covering insulators, the division being such that one project covered insulators for use below 750 volts and the other covered insulators for use above 750 volts. One standard, Insulator Tests (C29a-1930), was approved as a result of the work of the latter committee.

The scope of the combined committee, as given above, was approved by the Standards Council at its meeting of March 12, 1931. The personnel of the new sectional committee was approved by the Electrical Standards Committee at its meeting of October 13, 1931.

C31—Electric Arc Welding Apparatus

C32—Resistance Welding Apparatus

(*See C52.*)

C33—Electrical Devices and Materials with Relation to Fire and Casualty Hazards

Sponsor—Underwriters' Laboratories.

Scope—Specifications and standards for performance and inspection covering (1) fire and/or (2) casualty hazards of devices and materials employed in installations of electric wiring to which the National Electrical Code and related parts of the National Electrical Safety Code apply; but not for devices or machinery used wholly or chiefly in power generation, in substation, or transmission lines and the like, or in railway signaling, telegraph and telephone, or other electrical fields, except as the fire and casualty hazard in the premises served is concerned.

Under date of January 27, 1928, the Underwriters' Laboratories requested that it be designated proprietary sponsor for a project under the above title dealing with all devices and materials which would come within its scope. Proprietary sponsorship was formally granted the Underwriters' Laboratories on March 8, 1928. The method of procedure employed by the sponsor is to have the standards developed by the "industry committees" of the Underwriters' Laboratories, which consist of representatives of the Underwriters' Laboratories and of manufacturing interests. Later, endorsements are obtained from all organizations having a substantial interest in the particular project involved.

One standard, Outlet Boxes (C33a), has resulted, and was approved as an American Standard on August 6, 1929. Two other standards, covering flexible cord and panelboards, are now being circulated with a view to obtaining the consensus of opinion of industry, prior to their submission for approval by ASA.

C34—Mercury Arc Rectifiers

Sponsor—American Institute of Electrical Engineers.

Chairman—E. L. Moreland, Jackson & Moreland, Boston, Mass.

Secretary—H. E. Farrer, American Institute of Electrical Engineers, New York, N. Y.

Scope—Definition, service conditions, load limitations, power factor, heating, short circuit limitations, dielectric tests, insulation resistance, voltage regulation, efficiency, and rating, but not specifications for performance and inspection covering fire and casualty hazards.

The American Institute of Electrical Engineers was granted sole sponsorship for this project in November, 1927, in accordance with their request made in July, 1927.

In December, 1929, the personnel of the sectional committee was approved by the Standards Council.

In February, 1930, a preliminary draft of standards for metal tank mercury arc rectifiers was considered in detail. Since that time numerous meetings of the sectional committee have been held and the draft has been revised several times.

Under date of November 19, 1931, the sponsors had submitted to the ASA for approval as American Tentative Standard, standards for Metal Tank Mercury Arc Rectifiers. These have been referred to the Committee on Scope of the Electrical Standards Committee for its recommendations on approval.

C35-1928—Railway Motors

Sponsor—American Institute of Electrical Engineers.

Scope—Definitions, classification, rating, and methods of test for alternating and direct-current motors used in the propulsion of railway cars and locomotives.

This work was initiated upon request of the American Institute of Electrical Engineers in March, 1928. The standard was approved as an American Standard in October, 1928.

Revision of the standard is now going forward, the method for such revision having been decided upon as follows: a revision of the standard to be prepared by an internal committee of the American Institute of Electrical Engineers, this proposed revision, when completed, to be submitted to a sectional committee as a basis for its work.

The A.I.E.E. committee has completed its proposed revision and the organization of the sectional committee is now under way.

C37—Oil Circuit Breakers

C38—Disconnecting and Horn Gap Switches

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Scope—Definitions, classification, rating, methods of test and performance requirements for oil circuit breakers for indoor and outdoor uses except for fire and casualty hazards coming within the scope of project C33.

Under date of March 30, 1928, the American Institute of Electrical Engineers submitted its existing standards covering these two subjects to ASA for approval as American Standards. After discussion by the Electrical Advisory Committee it was decided that the A.I.E.E. and the N.E.M.A. be appointed joint sponsors to prepare revisions.

The sponsors have agreed that both projects could best be handled by a single sectional com-

mittee since they are so closely related. The organization of the committee was deferred, however, due to research work which was being done on oil circuit breakers. Recently, however, the situation has changed and the organization of the sectional committee is now practically complete.

C39—Electrical Measuring Instruments

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Scope—Definitions, classification, rating, methods of test, and construction details for direct-current and alternating-current ammeters, voltmeters, wattmeters, reactive volt-ampere meters, frequency meters, power-factor, reactive-factor, phase-angle meters and synchroscopes, but not including curve drawing, contacting, low precision, or special instruments.

This project came before the American Standards Association in March, 1928, through the submission by the American Institute of Electrical Engineers of its existing standard for electrical measuring instruments.

During a discussion of the matter in the Electrical Advisory Committee, representatives of the National Electrical Manufacturers Association pointed out that before approval of this material as American Standard they would wish to have it correlated with the standards of the N.E.M.A. on the same subject; consequently, the A.I.E.E. and the N.E.M.A. were designated joint sponsors for the project.

It is expected that a sectional committee will be organized in the very near future.

C40-1928—Storage Batteries

Sponsor—American Institute of Electrical Engineers.

Chairman—George W. Vinal, Bureau of Standards, Washington, D. C.

Scope—Definitions, classification, rating, and methods of test for storage batteries of the lead-acid and nickel-iron alkaline types, for stationary and for portable use.

This standard came before ASA through the submission by the A.I.E.E. of its standards on the subject for approval as American Standard, with the request that the Institute be granted proprietary sponsorship for the subject of storage batteries. After consideration, the A.I.E.E. was granted proprietary sponsorship in October, 1928, and the standard was approved as an American Standard on October 19, 1928.

To date, no necessity for a revision of this standard has been indicated.

C42—Definitions of Electrical Terms

Sponsor—American Institute of Electrical Engineers.

Chairman—A. E. Kennelly, Harvard University, Cambridge, Mass.

Secretary—H. E. Farrer, American Institute of Electrical Engineers, New York, N. Y.

Scope—Definitions of technical terms used in electrical engineering, including correlation of definitions and terms in existing standards.

This work was initiated in 1928, upon request of the American Institute of Electrical Engineers, who were granted sponsorship in October, 1928.

The organization meeting of the sectional committee was held in December, 1929.

Since that time many meetings of the sectional committee, its executive committee, and subcommittees have been held. The committee now expects, shortly after the first of the year, to publish in draft form for comment and suggestion between three and four thousand definitions. This report will be widely circulated and it is expected that this method of procedure will enable the committee in the course of a very few months to arrive at definitions which are satisfactory to all.

C43—Overhead Trolley Line Material (Proposed Project)

Scope—Definitions, classifications of types and applications, materials, construction, performance, and test.

In August, 1928, the National Electrical Manufacturers Association formally requested that a sectional committee be formed to prepare an American Standard on this subject, signifying its willingness to act as sponsor. This request was referred to the Electrical Advisory Committee. In June, 1929, the Scopes Subcommittee of the Electrical Advisory Committee reported that progress was being made on this subject through informal cooperative interchanges between the American Electric Railway Association, the National Electrical Manufacturers Association, and the American Society for Testing Materials.

C44—Rolled Threads for Screw Shells of Electric Sockets and Lamp Bases

Sponsors—American Society of Mechanical Engineers; National Electrical Manufacturers Association.

Scope—Dimensions, tolerances, and gaging of screw threads for Edison-type screw shells as used on lamp bases and plugs, and in lamp and fuse holders.

This project was undertaken upon request of the American Society of Mechanical Engineers, a recommendation to this effect being made by a special committee. A sectional committee was organized in 1929, and a proposed standard

C32—Resistance Welding Apparatus

(*See C52.*)

C33—Electrical Devices and Materials with Relation to Fire and Casualty Hazards

Sponsor—Underwriters' Laboratories.

Scope—Specifications and standards for performance and inspection covering (1) fire and/or (2) casualty hazards of devices and materials employed in installations of electric wiring to which the National Electrical Code and related parts of the National Electrical Safety Code apply; but not for devices or machinery used wholly or chiefly in power generation, in substation, or transmission lines and the like, or in railway signaling, telegraph and telephone, or other electrical fields, except as the fire and casualty hazard in the premises served is concerned.

Under date of January 27, 1928, the Underwriters' Laboratories requested that it be designated proprietary sponsor for a project under the above title dealing with all devices and materials which would come within its scope. Proprietary sponsorship was formally granted the Underwriters' Laboratories on March 8, 1928. The method of procedure employed by the sponsor is to have the standards developed by the "industry committees" of the Underwriters' Laboratories, which consist of representatives of the Underwriters' Laboratories and of manufacturing interests. Later, endorsements are obtained from all organizations having a substantial interest in the particular project involved.

One standard, Outlet Boxes (C33a), has resulted, and was approved as an American Standard on August 6, 1929. Two other standards, covering flexible cord and panelboards, are now being circulated with a view to obtaining the consensus of opinion of industry, prior to their submission for approval by ASA.

C34—Mercury Arc Rectifiers

Sponsor—American Institute of Electrical Engineers.

Chairman—E. L. Moreland, Jackson & Moreland, Boston, Mass.

Secretary—H. E. Farrer, American Institute of Electrical Engineers, New York, N. Y.

Scope—Definition, service conditions, load limitations, power factor, heating, short circuit limitations, dielectric tests, insulation resistance, voltage regulation, efficiency, and rating, but not specifications for performance and inspection covering fire and casualty hazards.

The American Institute of Electrical Engineers was granted sole sponsorship for this project in November, 1927, in accordance with their request made in July, 1927.

In December, 1929, the personnel of the sectional committee was approved by the Standards Council.

In February, 1930, a preliminary draft of standards for metal tank mercury arc rectifiers was considered in detail. Since that time numerous meetings of the sectional committee have been held and the draft has been revised several times.

Under date of November 19, 1931, the sponsors had submitted to the ASA for approval as American Tentative Standard, standards for Metal Tank Mercury Arc Rectifiers. These have been referred to the Committee on Scope of the Electrical Standards Committee for its recommendations on approval.

C35-1928—Railway Motors

Sponsor—American Institute of Electrical Engineers.

Scope—Definitions, classification, rating, and methods of test for alternating and direct-current motors used in the propulsion of railway cars and locomotives.

This work was initiated upon request of the American Institute of Electrical Engineers in March, 1928. The standard was approved as an American Standard in October, 1928.

Revision of the standard is now going forward, the method for such revision having been decided upon as follows: a revision of the standard to be prepared by an internal committee of the American Institute of Electrical Engineers, this proposed revision, when completed, to be submitted to a sectional committee as a basis for its work.

The A.I.E.E. committee has completed its proposed revision and the organization of the sectional committee is now under way.

C37—Oil Circuit Breakers

C38—Disconnecting and Horn Gap Switches

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Scope—Definitions, classification, rating, methods of test and performance requirements for oil circuit breakers for indoor and outdoor uses except for fire and casualty hazards coming within the scope of project C33.

Under date of March 30, 1928, the American Institute of Electrical Engineers submitted its existing standards covering these two subjects to ASA for approval as American Standards. After discussion by the Electrical Advisory Committee it was decided that the A.I.E.E. and the N.E.M.A. be appointed joint sponsors to prepare revisions.

The sponsors have agreed that both projects could best be handled by a single sectional com-

mittee since they are so closely related. The organization of the committee was deferred, however, due to research work which was being done on oil circuit breakers. Recently, however, the situation has changed and the organization of the sectional committee is now practically complete.

C39—Electrical Measuring Instruments

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Scope—Definitions, classification, rating, methods of test, and construction details for direct-current and alternating-current ammeters, voltmeters, wattmeters, reactive volt-ampere meters, frequency meters, power-factor, reactive-factor, phase-angle meters and synchroscopes, but not including curve drawing, contacting, low precision, or special instruments.

This project came before the American Standards Association in March, 1928, through the submission by the American Institute of Electrical Engineers of its existing standard for electrical measuring instruments.

During a discussion of the matter in the Electrical Advisory Committee, representatives of the National Electrical Manufacturers Association pointed out that before approval of this material as American Standard they would wish to have it correlated with the standards of the N.E.M.A. on the same subject; consequently, the A.I.E.E. and the N.E.M.A. were designated joint sponsors for the project.

It is expected that a sectional committee will be organized in the very near future.

C40-1928—Storage Batteries

Sponsor—American Institute of Electrical Engineers.

Chairman—George W. Vinal, Bureau of Standards, Washington, D. C.

Scope—Definitions, classification, rating, and methods of test for storage batteries of the lead-acid and nickel-iron alkaline types, for stationary and for portable use.

This standard came before ASA through the submission by the A.I.E.E. of its standards on the subject for approval as American Standard, with the request that the Institute be granted proprietary sponsorship for the subject of storage batteries. After consideration, the A.I.E.E. was granted proprietary sponsorship in October, 1928, and the standard was approved as an American Standard on October 19, 1928.

To date, no necessity for a revision of this standard has been indicated.

C42—Definitions of Electrical Terms

Sponsor—American Institute of Electrical Engineers.

Chairman—A. E. Kennelly, Harvard University, Cambridge, Mass.

Secretary—H. E. Farrer, American Institute of Electrical Engineers, New York, N. Y.

Scope—Definitions of technical terms used in electrical engineering, including correlation of definitions and terms in existing standards.

This work was initiated in 1928, upon request of the American Institute of Electrical Engineers, who were granted sponsorship in October, 1928.

The organization meeting of the sectional committee was held in December, 1929.

Since that time many meetings of the sectional committee, its executive committee, and subcommittees have been held. The committee now expects, shortly after the first of the year, to publish in draft form for comment and suggestion between three and four thousand definitions. This report will be widely circulated and it is expected that this method of procedure will enable the committee in the course of a very few months to arrive at definitions which are satisfactory to all.

C43—Overhead Trolley Line Material (Proposed Project)

Scope—Definitions, classifications of types and applications, materials, construction, performance, and test.

In August, 1928, the National Electrical Manufacturers Association formally requested that a sectional committee be formed to prepare an American Standard on this subject, signifying its willingness to act as sponsor. This request was referred to the Electrical Advisory Committee. In June, 1929, the Scopes Subcommittee of the Electrical Advisory Committee reported that progress was being made on this subject through informal cooperative interchanges between the American Electric Railway Association, the National Electrical Manufacturers Association, and the American Society for Testing Materials.

C44—Rolled Threads for Screw Shells of Electric Sockets and Lamp Bases

Sponsors—American Society of Mechanical Engineers; National Electrical Manufacturers Association.

Scope—Dimensions, tolerances, and gaging of screw threads for Edison-type screw shells as used on lamp bases and plugs, and in lamp and fuse holders.

This project was undertaken upon request of the American Society of Mechanical Engineers, a recommendation to this effect being made by a special committee. A sectional committee was organized in 1929, and a proposed standard

was drafted on the basis of three previous recommendations, as follows:

Report 1474 of the *Transactions of the American Society of Mechanical Engineers, 1915.*

Report of the subcommittee of the Standards Committee of the American Institute of Electrical Engineers, 1922.

Report of the National Screw Thread Commission published by the U. S. Department of Commerce, 1928.

The draft, after being published in April, 1930, for general criticism and comment, was approved by the joint sponsors and submitted to ASA for approval as an American Standard. This approval was granted on December 10, 1930.

C48—Electric Railway Control Apparatus

Sponsor—American Institute of Electrical Engineers.

Scope—Definitions, classification, rating and methods of test for railway control apparatus for electric railway applications, including trackless trolleys.

This project was initiated through the submission by the A.I.E.E. of its existing standard on Railway Control and Mine Locomotive Control Apparatus, for approval as an American Standard. After consideration by the Electrical Advisory Committee, the project was divided into two parts: Electric Railway Control Apparatus and Electric Mine Locomotive Control Apparatus. The A.I.E.E. was granted proprietary sponsorship for the former. In July, 1929, formal notification was received from the A.I.E.E. that a revision of the standard was being undertaken.

Under date of August 7, 1931, there was received from the sponsor a revised edition of the standard. This revision was referred to the Electrical Standards Committee at its meeting of October 13 and was ordered to letter ballot of the Standards Council. This ballot resulted in the approval of Electric Railway Control Apparatus (C48) as American Standard under date of December 17, 1931.

C50—Rotating Electrical Machinery

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Chairman—L. F. Adams, General Electric Company, Schenectady, N. Y.

Secretary—E. B. Paxton, General Electric Company, Schenectady, N. Y.

Scope—Definitions, rating, and methods of test for (*a*) direct-current generators and for direct-current motors larger than fractional horsepower; (*b*) alternators, synchronous motors, synchronous condensers and phase advancers, synchronous frequency converters, and synchronous rotary phase-converters; (*c*) induction motors and induction machines in general; (*d*) fractional horsepower motors, direct and alternating current; (*e*) synchronous converters, field control converters, synchronous booster converters, and cascade converters.

This project is a consolidation of five separate projects, each based upon an existing standard submitted by the A.I.E.E.

The standards for synchronous converters were first approved in 1926 and were under the sole sponsorship of the A.I.E.E. and were consolidated with this project in March, 1931. The sectional committee functions through two groups of subcommittees, the first, which may be called subject committees, is as follows:

D-c machines
Synchronous machines
Induction machines
Fractional horsepower motors
Synchronous converters

The other group consists of the following four subcommittees, which may be called functional committees:

Efficiency, power factor, and losses

Rating, temperature, commutation, overspeed, mechanical limitations, momentary overload, and short circuit requirements

Definitions

Dielectric tests, insulation resistance, and wave shape

The first meeting of the consolidated sectional committee was held in February, 1930, and at that time the committee's organization as listed above was set up. This organization has worked very satisfactorily, the functional committees having prepared material for each type of machinery on the subject within its field. These have then been consolidated into a complete standard for each type of machinery by the subject committees. The first complete report of the sectional committee was issued in August, 1931.

Two meetings of the sectional committee have been held during the month of December, 1931, to give final consideration to the complete report. It is believed, however, that an additional meeting will be required before a complete review of all of the standards can be made and the standards submitted to the committee for final letter ballot. It is interesting to note that this committee during the summer of 1930 met and formulated instructions for the guidance of delegates to the 1930 meeting of the IEC

covering the subject of rotating electrical machinery.

C52—Electric Welding Apparatus

C52a—Electric Arc Welding Apparatus
C52b—Resistance Welding Apparatus

Sponsors—American Institute of Electrical Engineers; National Electrical Manufacturers Association.

Chairman—F. M. Farmer, Electrical Testing Laboratories, New York, N. Y.

Scope—The formulation of standards for electric welding apparatus, including definitions of terms, classification, rating, heating, efficiency, testing methods, dielectric test, standard values of current and voltage and nameplate data.

This project was undertaken in February, 1927, upon the request of the American Institute of Electrical Engineers, as Electric Arc Welding Apparatus (C31) and Resistance Welding Apparatus (C32). In March, 1928, joint sponsorship was assigned to the A.I.E.E. and the N.E.M.A. In March, 1931, the scope and personnel for one committee to formulate revisions of the two standards originally submitted by the A.I.E.E. were approved by the Standards Council.

At the organization meeting of the sectional committee which was held November 14, 1930, the committee's program of activities was discussed. The committee's task was to prepare a revision of the A.I.E.E. standards for electric arc and resistance welding apparatus.

In order to proceed with this task, the Committee asked the N.E.M.A. representative to submit the specific criticisms upon which objection to approval of the standard had been made by N.E.M.A. Upon receipt of these criticisms the work will proceed.

C53—Recommendations for the Operation of Transformers

These recommendations were submitted to the Electrical Standards Committee for consideration under date of August 7, 1931. The Committee recommended to the Standards Council that they be approved as an American Recommended Practice. The Council concurred with the ESC and ordered the Recommendations to letter ballot of the Standards Council for approval as American Recommended Practice.

C54—Constant Current Transformers of the Moving Coil Type

These standards were referred to the Electrical Standards Committee for consideration by the A.I.E.E. under date of August 7, 1931. The ESC, after consideration, was of the opinion that the standards were entirely acceptable and suitable for approval as American Standards but that the material contained in the appendix covering service conditions and certain operating conditions should receive further consideration. Upon recommendation of the Institute's representatives the standard was referred back to the Institute for further consideration.

C55—Standards for Capacitors

This report on standards was submitted to the Electrical Standards Committee by the A.I.E.E. for consideration and with the suggestion that it be approved as a standard. Before action was taken by the ESC, however, representatives of the Institute stated that, since its submission, the desirability of certain revisions had come up. The ESC accordingly referred the proposed standard back to the Institute for further consideration.

C57—Transformers, Induction Regulators and Reactors

These standards were referred to the ESC in August, 1931, by the A.I.E.E. for such action as might be desirable. After careful consideration and unanimous approval of the members, the ESC decided that a sectional committee should be organized under the sponsorship of the ESC to take care of the subject. This project will cover standards for an extremely important group of apparatus and will also serve the U. S. National Committee of the IEC in the capacity of advisors on transformers.

Study of Explosives Accidents

A booklet, *Explosives Accidents in the Anthracite Mines of Pennsylvania, 1923–1927*, reporting the results of a study of all fatal and serious mine accidents involving explosives in the anthracite region of Pennsylvania during the years 1923 to 1927, inclusive, has just been published by the Bureau of Mines.

In addition to statistics and descriptions covering the various types of accidents, the report also contains suggestions for reducing or eliminating the accident hazards.

Copies of the booklet may be purchased from the Superintendent of Documents, Washington, D. C. for 20 cents each.

New N.E.M.A. Representative

W. L. Maucher, General Electric Company, Schenectady, N. Y., has been appointed representative of the National Electrical Manufacturers Association on the Committee on Specifications for Zinc Coating of Iron and Steel (G8).

Proposed Standard for Manhole Frames and Covers Published by ASA

A proposal for an American Standard for manhole frames and covers containing recommendations for 13 types of frames and seven types of covers to replace the thousands of types now in use has just been published by the American Standards Association. The demand for innumerable different designs and sizes of openings, for manholes by the various utilities and municipal supply departments which make separate or joint use of manholes for their underground pipes and lines has caused many difficulties in manufacture and replacement of manhole frames and covers. The present concerted effort to standardize on a few sizes and styles is the result of these difficulties. Since 1924 a technical committee has been working on the subject under the procedure of the American Standards Association, going through a long process of elimination, selection, and re-design.

The number of utilities concerned with manholes is indicated by a list of the organizations which have been working on the formulation of the standard through representatives on the committee. These organizations include the American Electric Railway Association, the American Gas Association, the American Railway Association, the American Society of Municipal Engineers, the American Water Works Association, the Bell Telephone System and the United States Independent Telephone Association, the National Electric Light Association, the Western Union Telegraph Company and the Postal Telegraph-Cable Company.

L. B. Fish, representing the Bell Telephone System, is chairman of the committee which prepared the proposed standard, and H. C. Dean, representing the National Electric Light Association, is secretary. The American Society of Civil Engineers and the ASA Telephone Group have been acting as joint sponsors for the project.

The committee is now circulating a questionnaire to all those concerned with the production and use of manhole frames and covers to determine whether producers and users find the recommendations satisfactory or whether they wish to make suggestions for changes.

The proposed standard includes drawings showing designs and dimensions for the 13 types of manhole frames and the seven types of manhole covers which are recommended. It is believed that this limited number of frames and covers will meet the present requirements of the various utilities concerned.

The draft also includes specifications for hydrant and service valve boxes. Specifications are given for the gray-iron and carbon-steel castings to be used in the manufacture of manhole frames, covers, and boxes. Standard methods of test are provided by which both manufacturers and purchasers can determine compliance with the specifications. Following are the types of manhole frames for which standards are proposed:

Straight type round base
Flared type round base
Flared type square base—(height 10 inches)
Flared type round base—shallow
Flared type square base—shallow
Flared type square base—(height 7 inches)
Flared type square base—light weight
Straight type square base
Straight type round base—for inner cover
Straight type square base—for inner cover
Straight type round base—shallow—flange midway between top and bottom—for inner cover
Straight type square base—shallow—flange midway between top and bottom—for inner cover
Shallow ring

The complete list of organizations represented on the committee is as follows: American Society of Civil Engineers, ASA Telephone Group, American Electric Railway Association, American Foundrymen's Association, American Gas Association, American Railway Association, American Society of Mechanical Engineers, American Society of Municipal Engineers, American Society for Testing Materials, American Water Works Association, Association of Edison Illuminating Companies, Bell Telephone Laboratories, Inc., Bell Telephone System, Canadian Engineering Standards Association, Gray Iron Institute, Inc., Malleable Iron Research Institute, National Electric Light Association, National Electrical Manufacturers Association, National Founders' Association, National Safe Walkway Surface Code Commission, New England Water Works Association, Postal Telegraph Cable Company,

Steel Founder's Society of America, Inc., United States Department of Commerce-Bureau of Standards, United States Department of Commerce-Division of Simplified Practice, United States Independent Telephone Association, Western Union Telegraph Company, and an independent expert, Mr. W. W. Horner, civil engineer, St. Louis, Mo.

Copies of the proposed standard may be obtained from the American Standards Association.

ASA Approves Standard for Pipe Flanges and Fittings

The American Standards Association has approved an American Standard for Cast-Iron Pipe Flanges and Flanged Fittings for Maximum Non-Shock Working Hydraulic Pressure of 800 Pounds per Square Inch (Gage) at Ordinary Air Temperatures (B16b1–1931), developed by Sectional Committee B16 on Pipe Flanges and Fittings. The committee was sponsored by the American Society of Mechanical Engineers, the Manufacturers' Standardization Society of the Valve and Fittings Industry, and the National Heating and Piping Contractors' Association. The chairman of the sectional committee is Dean Collins P. Bliss of New York University. Arthur M. Houser, engineer of product, Crane Company, Chicago, is chairman of Subcommittee 1 which worked out the details of the standard.

The standard, which is the eighth one so far developed by sectional committee B16, gives three tables listing the facing dimensions, the center-to-contact-surface dimensions, and the center-to-flange-edge dimensions in so far as these apply to elbows, tees, crosses, 45-degree ells, laterals and reducers, for nominal pipe sizes from 2 to 12 inches, inclusive. Copies of the standard, now on the press, will be available from the office of the American Standards Association in the near future.

Committee on Sieves Holds Organization Meeting

The organization meeting of the Sectional Committee on Sieves for Testing Purposes (Z23) was held at the headquarters of the sponsor body, the American Society for Testing Materials, in Philadelphia on December 15.

The committee selected the following officers: L. T. Work, assistant professor of chemical engineering, Columbia University, New York, chairman; F. H. Jackson, Bureau of Public Roads, Washington, D. C., vice-chairman; and L. V. Judson, Bureau of Standards, Washington, D. C., secretary. To assist the officers in determining matters of policy, the committee decided that the chairmen of such subcommittees as might be set up in the future should act with the officers as an advisory committee.

After full consideration of the objectives of the sectional committee, the following wording was agreed upon as suitable for the scope of this project:

> Specifications for sieves (screens) for testing purposes including nominal dimensions, tolerances, designation, and methods of verification; also methods for reporting results of sieving.

It is expected that this scope and also the personnel, which is practically complete, will shortly be submitted to ASA for approval.

A general discussion of technical points indicated the desirability of study of separate phases of the subject by subcommittees. It was decided that five subcommittees should be set up at this time to investigate the possibility of developing tentative specifications on the following:

1. Coarse sieves (square mesh and round holes, if both are found necessary)
2. Fine sieves
3. Pigments or other materials requiring special attention
4. The presentation of data
5. The calibration of sieves

The attention of the sectional committee was called to the work of ISA Committee No. 24 on unification of sieves for testing purposes on an international basis. It was decided that the sectional committee as representatives of American technology would participate in these discussions. The committee made the further recommendation that L. V. Judson be designated as the American representative on ISA Committee No. 24.

New Secretary of International Acetylene Association

H. F. Reinhard has been elected as secretary of the International Acetylene Association to replace A. Cressy Morrison, recently resigned. The International Acetylene Association is a member of the ASA Standards Council and is represented on several of the sectional committees working under the procedure of the American Standards Association.

MANHOLES

« « « After six years of hard work, a technical committee of the American Standards Association on **Manhole Frames and Covers** (A35) has reached a point where it is ready to submit the results of its work to industry for criticism and comment—one of the best indications of the careful thought and consideration that goes into the making of every American Standard.» » » A project of such wide application must necessarily proceed slowly. Many different groups are vitally concerned—not only the makers of manhole frames and covers, but the users as well. This means telephone, light and power groups, municipal water and sewerage systems, the railroads, road-builders, and others.» » » The draft standard is available in printed form. About 30 organizations are cooperating in broadcasting copies among individuals who are qualified to criticize the recommendations constructively. A discussion is included in the draft pertaining to such questions as:

> « « «Why are round openings in manholes preferred to square ones?» » » What are the best sizes for openings and why?» » » How high should frames be?» » » Which are better—cambered or flat covers?» » » How thick should covers be?» » » What are the advantages of radial ribbing?» » » What materials that meet strength requirements are most readily available?

Any one interested in having a complimentary copy will be supplied upon request to the N. Y. office. Let us know if you wish us to send you one.

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AMERICAN STANDARDS ASSOCIATION

29 West Thirty-Ninth Street, New York City, N. Y.